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THE

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JANUARY, 1869.

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The Dental Register

OF THE WEST.

Issued Monthly, at \$3 a Year in Advance.

DEVOTED TO THE INTERESTS OF THE DENTAL PROFESSION.

EDITED BY J. TAFT AND G. WATT.

The volume commences in January and closes in December.

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Original Communications.



MECHANICAL DENTISTRY—PAST AND PRESENT.

BY J. P. H. BROWN, AUGUSTA, GEORGIA.

Mechanical Dentistry includes more than mere manual dexterity in the use of tools. Like sculpture and painting, it gives the creations of expression and intelligence. No block of marble in the hands of the sculptor was ever more subject to his control than are the varied expressions of the mouth and its surroundings subject to the controlling power of the Dental Art.

The Dentist is not only an artisan, but *he must be an artist*. He can work by no set of rules, like the handicraftsman, but by the power of his art he has to infuse into his work a life—an expression—a soul. He can not be a mere copyist, because he has not always the natural teeth to copy from. His subject often comes toothless, with features contracted, and all natural expression of the mouth gone. In such cases he has to depend upon his æsthetic conceptions and knowledge of the physiognomical poles of the sentiments and emotions, and the harmony and blending of shades, forms, etc. Besides all this he should have a thorough ac-

quaintance with anatomy, physiology, chemistry, metallurgy and mineralogy. Hence, the greater the acquirements and skill of the Dentist, and the more closely he *imitates* nature, the more perfectly will his artificial denture supply the place of the one lost.

Since mechanical Dentistry is so pre-eminently artistic, and demands, in order to accomplish the best results, a degree of skill second to no other profession, it may not be amiss to examine into its present "status." But here the questions naturally arise: Has it, during the last ten years, been progressing upward toward the æsthetic—the ideal of nature—or has it been downward toward simple mechanical routine? Has the tendency of the dental mind, during these years, been toward the discovery of a material for a base, or a method of mounting artificial teeth, producing the most perfect results, and, of course, requiring a corresponding degree of skill; or has the study been to find some *common, cheap* substance demanding neither skill, ability nor brains to work, by which a full set of "double-back-action" grinders, "warranted equal to nature," can be inserted for twenty dollars, or less? These questions to the Dental bungler may be of no moment, but to the practitioner whose aspirations are upward and onward, and who desires to see and to aid in placing his profession upon the same basis, and characterized by the same *esprit de corps*, as medicine or law, they afford material for thought—sad thought.

The circulars and advertisements of the venders of these *base* bases have become as common as those of the patent medicine quacks. They hold out the shabby inducement to use their stuff, that a few hours study, or a week, at farthest, is sufficient to master the manipulations of their wonderful invention; that there can be no misfits; and that the cost of material for a full set amounts to *only* the paltry sum of three shillings. Men who have neither the natural ability, nor the acquired qualifications to construct a passable gold job, to say nothing of continuous gum and block-work, grab

at such a "trade," so easily learned, like a hungry spider at a fly. Such characters and their abettors are nothing more than machines, grinding out caoutchouc, or something else belonging to the same category, *indiscriminately* to all who are so unfortunate as to apply for a set of "masticators." The effect of all this is to drive talent from the laboratory in disgust. To call Dentistry a profession, under such circumstances, is preposterous. What gives dignity and standing to a profession? Unquestionably the long study, the close application, and the talent and skill demanded in order to practice it with success. If we wish to improve the professional "status" of mechanical Dentistry, we must labor to construct a class of work vieing nature as closely as possible; and such work can only be produced by the highest order of skill. Men may get *above* the professional level, but none should be far below it.

I will take the ordinary dental rubber for illustration. Now the great mass of rubber-workers use it indiscriminately, and make their patients believe that it is better than all other styles of work. They do not recommend it because they honestly believe it better, but because there is "more money in it," and they have no occasion to exercise much brain in putting it up. Rubber work, as usually constructed, with the moulded blocks and the stiffly and mechanically arranged teeth, often reminding one of a mouth filled with little pegs, may seemingly be very nice to a Dentist of low conceptions; but when placed by the side of a beautiful piece of continuous gum-work properly constructed, (and when thus made it is strong, durable, artistic, and the most cleanly of any) it is like comparing the common plaster of Paris images with the creations of an Angelo or a Powers.

The indiscriminate use of any style of work is prejudicial to the highest attainments. Hobbyism in mechanical Dentistry is just as short-sighted, and as productive of bad results as it is in the operative department. The rule should be to recommend *the very best* of which the case will admit.

But it is urged that cheap materials are required to "meet the wants of the poor," and other cases arising frequently in a full practice. Then confine their use to these "other cases" and to these "wants;" but even with the poor it is better to give them the best and let the profits be paid by the rich.

The introduction of cheap work, besides lowering the grade of qualifications for the laboratory, whereby an army of incompetents have been turned loose to prey upon the gullible public, has had the effect to cause less attention to be paid to the preservation of the natural teeth. The common mass let their teeth go to decay and destruction, when they can get a full denture of artificial ones (warranted of course) for less than they would have to pay a first-class operator to insert a gold filling. An esteemed Dental friend, of acknowledged skill and ability, and who has a large practice, when writing me a few weeks ago, made use of the following language; "My practice is more and more becoming one of extraction and the making of artificial teeth. This is a lamentable fact; but so it is, in spite of my twenty years hard labor to awaken the people to a full sense of the great value of operations upon the natural teeth." This, alas, is the experience of many.

Having shown that these cheap and common materials for a tooth-base, have not only impaired the respectability of the profession, but have really degraded the mechanical department to a "tinker's trade," (besides, done the people an irreparable injury) let us examine a little into the history of their introduction.

In the first place, Dentistry is unquestionably as much a part of medicine as surgery. It is so considered by our first physicians and surgeons, and so proclaimed by our Dental College professors. Dentistry being a part of medicine, it necessarily follows that the same rules and etiquette which are laid down to govern the professional conduct of the prac-

titioners of medicine and surgery, should also govern the practitioners of Dental science.

As the medical profession owes its power, influence and skill to the perfectly free and unrestrained interchange of ideas and opinions, it is held to be derogatory for one of its members to patent any remedy, appliance, or principle of its application. As each member draws from the common fund of knowledge—the accumulated discoveries of centuries—he is morally and professionally bound to contribute his portion, either small or large, to the common stock. To infringe this law of the professional code is considered so great a misdemeanor, that the offender is no longer considered worthy the respect and confidence of the profession. But how different is this from the present ethical code of the Dental profession.

As soon as a member imagines he has made a discovery—without even waiting to test it—he hurries off to Washington to get it patented. It is true the rubber patents were taken out by men not members of the profession. Many of these patented so-called improvements are mere clap-traps—not worth a six-pence. Some are only old processes, slightly modified, that have long since died—been buried in disgust—now resurrected.

But, says the patent monger, he has a *legal* right to a patent. He must be paid for his long years of study, and for the money (mostly spent for his patent) expended in perfecting his invention. That “the laborer is worthy of his hire.” I admit that all these rights are his—the *same* that are enjoyed by any mechanic—but deny that he has any right to claim the honors and privileges of a profession that owes its life to a free and liberal exchange of ideas and experience. It is time the various Dental Associations were awaking to a full sense of the mischief done by these excrescences on Dental progress.

This jumping at every new fangled thing that comes up is not always, by any means, a correct way to test true pro-

gress. Great improvements are not developed by fits and starts. They are the result of time and of united energies. The history of the introduction and improvements in the manufacture of porcelain single teeth, carved blocks, continuous gum work, (Allen's improved) etc., show that from the time of the first conception of mineral teeth by Fauchard down to the improvement in their manufacture by Delabarre, and from the time of the latter down to the present beautiful productions, it has been idea added to idea, experience piled upon experience.

Mechanical Dentistry can only be kept from degenerating to the level of a common trade by avoiding cheap work; by using such materials and modes of construction upon which the highest skill can be placed; by practitioners ceasing to receive pupils, except such as have the requisite talents and education; and by a strict adherence to the code of professional ethics.



A PLEA FOR SPECIALTIES.

BY PROF. EDWARD RIVES, M. D.

I have seen people die unnecessarily, under the most scientific and unexceptionable medication. There is then something more than a ministration to physical wants required. Clearly the association of mind and body is so intimate that the one may not be seriously diseased without an implication of the other. No one has a more profound respect for the wonderful revelations of physical and chemical sciences in connection with the profession of medicine than the writer, and no one can be more ready to recognize their value or avail himself of a knowledge of them. But with all the facilities which these sciences have afforded us in the various branches of the profession, these alone, it will be found, are

not sufficient for the cure of disease. If man were a thing, certain causes would always produce certain effects upon him, just as definite relations exist between inorganic substances. But man is organic, and not only so, but of the most highly vitalized class; and more than all, is endowed with mind, that subtle incomprehensible link which connects us with the Creator, and this mind is so intimately blended with our physical nature that they mutually react upon each other, and we can not, with impunity, overlook the importance of moral influences in the treatment of disease. It is not at all infrequent in my experience, and, I suppose, in that of other physicians, who have watched closely the phenomena of disease, to see and mark sudden changes which can not be wisely attributed to medication or to physical infirmity. Such phenomena, if closely examined, may be referred to moral causes with a great degree of certainty. While I lay no claim to originality in bringing this subject before the profession. I can not shut my eyes to the fact that in actual practice we rely too much on the "*modus medendi*," and not enough on moral influences. We are too apt to refer every increase of perturbation to physical causes, every decrease to skillful medication. I trust I may not be misunderstood. It is absolutely necessary to know the pathology of disease and its appropriate medication, but this is not all. A thoughtless word or look, a want of attention to foolish whims, a want of tact on the part of attendants, a want of light or darkness, of silence or sound, and a hundred kindred little things which would scarcely impress a sane man, seriously disturb the mind of a sick one and react upon his physical nature. Such slight causes at the crisis of a grave disease—when life is suspended, as it were, by a thread—will often determine the result. I have known the change of a counterpane to have the happiest effect on a patient ill of typhoid fever who could not refer his mental disturbance to a definite cause. I have known the figures on the curtains of a sick room to be dis-

torted into hideous images by the sick man. When these curtains were removed, he sank into a gentle slumber, and awoke on the ascending scale of health, sight, hearing, taste, smell, feelings, whims, all, must be made conducive to recovery, else they retard or prevent it. The mental wants of a sick man differ from those of a well one as widely as do his physical wants, these must be as wisely administered to in the former as the latter case. Alas, how few of us are qualified to soothe the weary brain distorted with sickly imaginations. We can not assume such qualities, for the sick man's penetration concerning his personal welfare is often keener than when in a state of health. He observes in silence but with watchful eyes every movement of his attendants, every look, every whisper, and his imagination may distort the kindest motives into inattention or indifference. How often do we see extreme officiousness endeavoring to take the place of intelligent active sympathy, all with the best intentions, but bearing the worst consequences. Adaptability to the sick room can not be taught, it is the essence without which all knowledge will be in vain for purposes of cure. It can not be learned, for it is born with the individual and is not an acquirement, it is the physician. This instinctive sympathy, this electrical unison between the minds of the physician and patient is a gift without which not one can hope to be successful in the sick room. All of us may learn to minister to the physical nature in accordance with scientific facts. Few of us combine this knowledge with the intuitive perception of the state of the patient's mind. Without such combination the patient may get well in spite of you, but not because of you. It may be a startling opinion to state that all who have a knowledge—in the usual acceptance of the term—of the profession are not competent to cure disease, are not fitted for the sick room. Superadded to knowledge he must have the genius, talent, or whatever you choose to call it, to which I have referred, of identifying himself with

the mental condition of the patient. A close observation of the troublesome vagaries, whims and caprices of the sick, and of the apparently little nothings which often dispel them, will convince the candid mind that these little nothings are really often of vital importance, and require an extraordinary perception to discover. How are we to know of this peculiar adaptation to the sick room, is a question very pertinent, but I confess, difficult to answer. One's vanity may mislead him, but we would leave the decision to each individual for himself and those who are laboring for the development of truth will not deceive themselves. What shall we do for a living? is an equally pertinent question, but one far easier to answer than the first. To cure disease is but one out of many branches of the profession. The very general aspiration to become physicians, I mean curers of the sick, retard the progress of our science. How few workers have we comparatively in the unexplored field of pathology, physiology, chemistry, microscopy and kindred sciences, each one of which surely embrace enough to occupy limitless generations, and if properly pursued as a means of livelihood would be quite as remunerative, and perhaps more so, than the general practice. The how and why I leave to the intelligence of the reader, contenting myself with the assertion that no one has yet attained excellence in these pursuits without corresponding emolument in money and reputation.

I take the ground unhesitatingly that, in general, it is a physical and intellectual impossibility for one man to embrace the details of all the branches of medicine. It is true that a knowledge of their general principles is not only attainable but *absolutely necessary* to all workers in the profession, but we must work in detail if we expect to advance. We have had too much generalization, and until a comparatively recent date, the study of specialties has, by some absurd species of reasoning, been connected with quackery. One of the chief charms, it has often struck me, in the profession, is

that it furnishes an appropriate nidus, so to speak, for every class of mind to develope. All have room in some specialty. In the choice, however, of a specialty, we are too apt to be led to that which has proved remunerative to others, though we may not have any special inclination or adaptation to it. That specialty will be the most remunerative which is most in consonance with the character of our minds. Each class of minds should work in different spheres. That class which can collect, arrange, harmonize facts, and make practical application of the grand total, is comparatively few in number, and by reason of this harmonizing faculty, is composed of men who, in my estimation, are alone to be entrusted with the general sick, who have that mysterious influence over, and sympathy with the sick mind so necessary in the cure of disease. At first contemplation of this view of the subject, the specialist may be startled, nay, indignant, at the seemingly inferior position to which I have assigned him, but aspiring myself to a specialty, I do not regard the subject viewed in this light with any thing but satisfaction. If the specialist is not fitted for general practice, neither is the general practitioner adapted to the work of the specialist. They are each necessary to the other. Each equally necessary to the world, and each, if faithful to his duty, will be amply remunerated. The sum of all—there are too many physicians, too few specialists. Am I right?



AN EXPERIENCE.

In the good old times of Methodism, and in the good old times of local Dental meetings, members used to get up in turns and give their Christian or their Dental experience (according to the meeting.) We would tell in one how the devil had, by a sharp trick, tempted us, and how we had, by

having fortunately called to mind a verse from Scripture, resisted the flattering and seducing arts of the base foul fiend; and how he had, after a fling from us of some stinging hint, fled. We could describe, with tears of joy, how the old fellow had turned his spade-like tail and made rapid tracks with the heels of his hoofs toward us. In our Dental meetings, when then spirit of fraternal love warmed our blood, we would each arise and tell all about our methods or successes, our beliefs and hopes, and we would sometimes laughingly acknowledge a failure or two. This is certainly a good practice, and all who are not too well posted to be able to learn any thing new, enjoy these experience meetings and profit by them. But I'm not going to give a history of experience meetings, but will, with your permission, get up in these pages and give an experience with Morgan's Plastic Gold. I was a believer in the theory that has been expressed by many whose opinions are worth consideration, that crystal or plastic gold ought to be the best material for first-class contour fillings, and others, too, for that matter. I got some of Morgan's gold to try, it being highly recommended by names I had learned to regard. My first case was for filling two superior right bicuspid, approximal cavities. The teeth were badly decayed, and, when prepared for filling, left a very wide space between the cutting surfaces of the teeth. My gold was cut in lumps and blocks of various sizes, the plastic gold instruments were ready at hand, and a remarkably intelligent and muscular boy, with mallet raised, was standing by. All was ready and I went to work. Gradually the gold began to grow—the mallet taps rang like the blacksmith's hammer in the Anvil Chorus—a little time passed and behold, in place of a great hole and two absent halves of the two bicuspid, two beautiful, highly polished, richly colored gold halves seemed to have grown out of and upon the remnants of those crowns. "Ah! how beautiful," I exclaimed. I could not let the patient go till I had stood with clasped hands and glowing eyes before that gaping man,

and admired the symmetry and perfectness, the beautiful and artistic results of my handiwork.

When the patient had been dismissed I cried "Eureka!" I had dreamed many a night, and oft, of just such fillings. I had made them in my slumbers, but never before in my waking hours. I had had an ideal plug floating before my mind's vision for months and years, but never had my eyes been permitted to feast in reality on such. My ideal was transplanted from the land of the imagination to the mouth of that plain man of the world, and *my* hand, with Morgan's gold, had done the thing. Oh! what joy! what happiness was mine. Do other men in other professions ever feel the exultant and triumphant, the jubalistic and tumultuous blaze of joy that occasionally falls to the Dentist's lot. Wherever I went I spoke in terms of praise of the plastic gold. My foil, I melted into plate and solder, in my laboratory, and I became an enthusiast. I was a Morgan's Plastic Gold man all over. I felt then, for the first time, as a brother Dentist once expressed it, "that it required genius to be an operator;" therefore, I am an operator, or a genius, I forget which. I continued the art of making artificial dentures as the trade of the "mere mechanic." Those were happy days for me, my brothers. Every case I had was only another opportunity for me to express my genius, by placing a beautiful gold substitute for every fraction of lost tooth, bone and enamel, and I accomplished the splendid results with plastic gold. I had read of the enthusiasms of men of genius, and I blessed Disraeli for having recorded and collected an account of them, and for his having told me of the absorption of all the faculties, and the concentration of them on one object, of the eagerness, the spirit, the spending of days and nights on a favorite subject or object, either in philosophy, science, poetry or art, of the minds of genius, and I felt and knew that I was a plugging genius. Future generations would acknowledge the greatness of my name, and bright pictures of fame encircled me. I was in danger of being

called, like Raphael, "an enthusiastic madman," but little I recked if they'd let me plug on with the gold that Morgan had left us. In the hight of my enthusiasm, when, I'm afraid, I had silent contempt for all ye, my brothers, who were not using Morgan's gold, and, after about two or three months of happiness, my first patient called. I rushed toward him, seized his hands and begged to look at my first work as a genius. I dated the dawn of my genius from the time of filling those bicuspid. The coarse man did not seem to appreciate my cordiality, but rather doggedly opened his mouth, and, though I trembled with eager delight, when my eyes turned toward those bicuspid, my heart stopped beating. In agony I cried, "Where, oh where, are the beautiful monuments of my glory?" "Why, the infernal things crushed off in about two weeks, and the teeth have been giving me thunder ever since," was the reply of the unfeeling—*man*, must I say? Alas, it was true. A little spongy gold remained in each tooth, but decay had played around those little oozy balls, and the teeth were all but ruined. I was struck with mortification and astonishment, but as genius must suffer and be patient in secret, I excused myself for a moment, went into my library, tore out the music from a libretto of Faust, commencing "Gloria!" which I had been humming ever since I had been using Morgan's gold, bathed my throbbing temples, and returned to my patient cool and collected in manner. In a business like way I filled those teeth with amalgam, and suspended all opinions on every subject connected with Dentistry. In an hour and for a month, other patients called with fillings out, and fillings crushed and broken off, and defective, and pieces of gold out, &c. I had never been so busy. My business was immense. All work to be done over. Finally, my professional calls became so numerous, my practice so extensive, that my nervous system succumbed to the pressure, and I was compelled to retire from the active duties of the profession till health should again smile upon me.

Have others had such an experience? I hope not. Mine must be a bad and singular case. If it is, it lies with you who have been successful in the use of Morgan's Plastic Gold, to charge the fault to the operator. I only give my experience. I've also concluded that pride must have a fall, and to be struck with a genius for filling teeth is any thing but a blessing.

C. M. WRIGHT.



Proceedings of Societies.



REPORT OF DISCUSSIONS AT THE OHIO STATE DENTAL SOCIETY, DECEMBER 1 AND 2, 1868.

THE MEANS OF CONTROLLING THE FLOW OF SALIVA DURING OPERATIONS.

Dr. BUTLER: I suppose it is well understood by all that the great difficulty we have to contend with in filling teeth is the saliva, or fluids of the mouth, and the great difficulty in controlling them so that we may be able to make successful operations, especially upon the inferior teeth. Of course, men have their peculiar modes of doing this, and stick to them with a great deal of tenacity. These are the rubber dam, the napkin, the duct compressor, &c.

Some will condemn the use of one mode for all cases. I have tried nearly all the different appliances that have been brought before the profession, and notwithstanding some claim to the contrary, there are some cases that I am unable, with any thing that I have seen to control the saliva, so that I can make such fillings as I would desire.

With these general statements, I would simply say that I do not think that any one mode is the best in all cases. I have not had much practical experience in the rubber dam, but would say that in many cases it seems to be the only thing that will protect the case so that you may operate upon the teeth. The greatest objection I have to it is that it requires considerable ingenuity and skill to use it in such a manner as to answer the purpose for which it is designed. Unless the preparation is made of a good article, and made nicely, it is liable to tear. There is, also, a difficulty in turning the edge down, which is the great point. After it has passed over the tooth to be operated upon, it must be turned down and the silk thread tied above it so that it will not slip.

In my own practice, I resort to the use of small napkins, and believe that the less complicated the appliances for this purpose the better. There is a sort of repugnance to putting any of these clap-traps in the mouth. They seem to excite the flow of saliva, and you actually defeat the attempt to control the moisture.

The use of large napkins, I think, is inadmissible. They are in the way of the operator, and fill the mouth so much, and annoy the patient so that they do more harm than good, and then you can not change them so readily as small ones. There are a great many operations we are called upon to make now-a-days, which it is impossible to complete without changing the napkin several times. The manner of introducing and consolidating the gold requires time, and the cavity must be free from moisture.

In the first place—to give a little detail of the procedure—In proximal cavities, I would use the wedge of wood, putting it in each side of the tooth I am going to work upon, that shuts off any flow of moisture at the base of the cavity, and gives a view of the lower margin, and protects the gum in the operation of packing the gold and finishing the filling. If there was only this advantage in the wedge, that is suf-

ficient to balance all the inconvenience of its introduction. In those cases where the teeth are a little feeble and loose, and where there is that spongy condition of the gums, where it is difficult in suppressing the flow of moisture, I find by wedging up several teeth along, you succeed quite well in shutting off the moisture which is so great an annoyance.

Then, in using napkins, I would use no other than those that can be readily folded in a convenient shape to place under the tongue and outside the labial surface. Using smaller ones outside than inside, so the tongue will not be forced back in swallowing. There are some patients who are not able, or do not know how to swallow if there is any thing in the mouth, and with them it will be difficult to control the moisture. By placing the napkin in on the side where you are going to work, and allow it to come around perhaps two-thirds of the way, it may be easily changed when it becomes saturated. But this is a matter that very few seem to have become master of—just handling those little compresses so as to accomplish the object.

I would simply state in addition to the use of these small napkins—going back to the rubber dam in cases I can not control with the napkins; I put in the rubber dam, and in some cases I believe it is necessary. This flow of moisture must be controlled though it demands time, if we would have the operation such as we would expect to get good results from. There are many, I know, that come short of obtaining the best results, from the fact of being unable to control the moisture. You may talk about submarine filling, but I would not resort to it if it could be avoided. That is the last resort, and then only an imperfect operation can be made. The large gold fillings that are demanded at our hands, require different manipulations throughout from those of ten or fifteen years ago. There are a great many fillings now made that ten years ago we would have thought impossible, especially in the inferior teeth. There is not much difficulty

in controlling the moisture on the superior teeth and making operations, but it is with the inferior teeth that the great difficulty occurs.

Dr. SPELLMAN: I am constantly using the rubber dam, but it is often very annoying. Sometimes I am on the eve of giving it up, because it slips off when I get it placed. When the rubber dam is properly adjusted, you can draw the mouth up as you wish, and go into the reception room and chat with patients, though the filling is not completed. When properly put on, it is impossible for the water to pass between that and the tooth. In filling the inferior teeth I regard it as an indispensable article. When operating on a bicuspid, I very often, in order to succeed with the rubber dam, place it over three teeth and operate on the middle one. It is almost utterly impossible to put the rubber over the inferior cuspid in such a way as that the water will not leak through. In such cases, I always have cut up in readiness, pieces of spunk, and if it leaks, and they become wet, I change them as Dr. Butler changes his napkins. You will see at once, when the spunk is saturated and should be changed. With regard to the inferior incisors, it is very difficult to apply the rubber dam, yet it can be done by taking a piece of silver wire, or if you have not that, very small wrapping wire, and bringing forward, hold it with a blunt instrument and crowd it below the crown of the tooth, then pass your rubber down as near the wire as possible, then slipping the silk over this twice after, and with a fine instrument, slip the edge of it over that wire. It is so liable to slip up, but with this wire it can be held down. So far as the upper teeth are concerned, I use it a great deal, though I don't regard it as indispensable any where except for the inferior teeth.

In filling the superior bicuspid, the wedge is my dependence. But we find that the gums seem to secrete a kind of watery mucus that is not naturally a product of the salivary

glands, and when engaged in an operation of filling, you will discover it is becoming moist. This spunk, if pressed into the interstices between the teeth in such cases, will always show you when it is time to change it. When there is danger of water, I never fill approximal cavities, or attempt to do it, without pressing into the interstices between the teeth pieces of spunk in this way, and if the wedge passes far enough above the base of the cavity so as to put a very thin piece of spunk in, I prefer it, for, although you dry it off the wood well, the water will work through it, and the first pellets will become a little dampened. I would rather have every point clean and dry, for when you come to filling the upper margin, you can not polish or finish off with so nice and smooth a surface as if it had not got wet or dampened by contact with the wood. I use bibulous paper where Dr. Butler uses napkins.

I don't know whether it is better or as good. [A member. "It is good, though expensive."] I use it because I thought it was not so expensive. A quire of this paper will last a good while. It is rather a delicate tissue paper, and not so rough to the mouth as supposed. It will contain a great deal of water. Formerly, in using it, I took and folded it closely, one layer over another, folding it compactly and rendering it hard, supposing that the more I got in the more water it would contain. The paper is capable of great expansion, and will contain water in proportion as you allow it to expand. Afterwards, I found that half the amount of paper would hold as much water, and folded more loosely, it was not so harsh or offensive to the soft velvet-like tissue it is laid upon.

Dr. BUFFETT: I can not tell you how to control the flow of saliva. I can tell how I attempt to do it. I confess I have not received very much benefit from the rubber dam. It has been a failure in my hands to a great extent. I use the holder sometimes for holding the cheek back, and in cases which I consider difficult, as the inferior teeth, sometimes

have the strap to pass around the neck and head and held by the patient. That I consider an indispensable appliance, and on the inferior teeth I depend almost entirely on napkins, and occasionally on the tongue holder. Instead of the napkin I use linen cloth, called diaper, containing considerable starch, so as to contain a certain amount of stiffness; if it is washed it is sometimes too flimsy. I cut it into pieces from an inch to four inches square. Placing these small pieces and pressing them under the tongue, and the large napkin under the end folded in a strip. You can change either the larger or smaller napkins as many times as you wish.

The fewer things we put in the mouth the better we can operate, and with more ease to ourselves and patients. It depends a great deal on the firmness, as you may say, of the operator. If you determine to control the flow of saliva, and let the patient understand what you intend, you will be more likely to succeed. But if you go at it indifferently and undecided, your patient will think there is going to be a great deal of trouble, and they will get excited, so that you can not make a good operation. Even if I think there is danger I don't tell them. If I fail I try again.

Dr. HERRIOTT said he tried to control the condition of the patient. He applied something to the teeth after they were excavated, applied white wax and sealed up the cavity, and delayed the filling a day or two. Had this engagement arranged beforehand, then, when the patient returned, there was no excited condition of the patient, as immediately after the excavation of the teeth, when the flow of saliva would be greater than if the patient had been quiet for a day or two.

Dr. N. W. WILLIAMS, for the last few weeks, had been using the new duct compressor—Smith's—the part that passes under the chin has a lateral motion, also that which passes inside. His way of using it is, to cut out a piece of spunk something in the shape of a half moon and place on the ducts, and then a small napkin laid round inside of the teeth under the tongue, placing the duct compressor on that,

and pressing down as tightly as it would admit of without irritating the muscles. He had succeeded better in controlling the flow of saliva with that apparatus than any thing he has tried before.

Before he got that, he had succeeded pretty well by the use of the napkin and spunk. He had, by directing the patient to crook the finger and place the napkin in the mouth and hold it, succeeded in cases where he had failed before.

He thought spunk controlled the flow of saliva better even than the use of napkins, for, as Dr. Spellman says, we can, by using it, generally tell when there is approaching danger. He had often succeeded by having a piece of spunk near at hand and applying it. But by applying the spunk under the tongue over the saliva ducts he had found particular advantage.

MECHANICAL DENTISTRY.

Dr. BERRY said: I hoped Dr. McClelland would have been here to elaborate somewhat his invention of "Rose Pearl," as a base for teeth. I have been for years anxiously hoping we should get something that would deliver us from the intolerable nuisance of rubber, but I am not quite certain that we have it yet. I hope rose pearl may prove successful.

The use of rubber has been a great detriment to our profession. As a base for teeth it does not afford sufficient strength; and especially is this the case in partial sets. Also, from the manner of securing the teeth on them, breakage of the teeth is much more than on metallic bases.

Rubber has let into the profession a set of graceless, unprincipled, miserable quacks, who, with an overwhelming stock of impudence, proclaim themselves dentists, after studying long enough to enable them to mount teeth on rubber, as they may, spending fewer weeks at it probably than would be required of years to properly prepare them for

practice. It is among those that the "Ten-dollar-a-set" advertisers are found.

But for rubber we should not have been annoyed by these charlatans, nor the people cursed with them. It is strange that every member of the community does not understand when a Dental practitioner offers his services for almost nothing, he is the best judge of their value, and that of artificial teeth, the best they can get are none too good.

Rubber comes in as a cheap, mean, inferior substitute for something better—this is all we can say for it. We should endeavor to elevate the standing of mechanical Dentistry, and urge on our patients the importance of having their artificial teeth constructed on strong, durable material, and paying for them an honest Christian compensation.

Dr. SPELLMAN said while the rubber advent has been a very unfortunate one, in one aspect of the case, it has been a very fortunate advent in another aspect. I believe that the Dental profession to-day stands higher than it would have stood had it not been for the rubber advent. We will go back to the time it made its advent, in 1854, perhaps—at least that was the time we commenced to make rubber work in the State of Ohio. Every one present will bear me witness that every laboratory in Ohio was well supplied with all the appliances necessary to do artificial work. If you called upon a Dentist, you were more likely to find him in his laboratory than in his office. There was a great amount of labor performed in the laboratory. That class of men who had ability were patronized in this specialty; that is in continuous gum work, gold, silver, &c., and it required so much skill that none but men of talent could succeed. But the rubber advent changed that and drove them from the laboratory to the operative room. The profession has turned its attention to preserving the natural organs. So far as the rubber advent has conduced to this end, it has been a blessing to the profession and a blessing to the world. But the rubber itself is a miserable failure. It has brought

into the profession a class of men that have taken to the operating room—men with no qualification, as I have said. What impudence for men that have but one prominent feature of mental qualification—that is consummate impudence and dishonesty. The honorable members of the profession, scorning to put themselves on a level with such men, have done as little as possible in putting in artificial teeth, so as to meet the wants of their patients and have adhered to that business for which they went into the Dental profession. I say, then, that the profession has been elevated by this rubber advent, and it has drawn a line of demarkation between these empirics and worthy men in the profession. It has enabled us to take a step in advance, and make a stride in the direction of conservative Dentistry, that in 1854 was never contemplated. Now, mark, I attribute this to the rubber advent; but, while I am making these remarks, I would not have any one construe them for a moment so as to think I am an advocate of the rubber. I detest it. I detest it because very many people will class us with these persons that are doing now most of the rubber work in our section of the country. It is there done mostly by quacks, and I presume it is so in other sections of the country. I believe we all understand that if we have any new ideas to throw out which may be of advantage to the members, that we feel it to be our duty to do so. Let me ask the Association to follow me back again for a few moments to that period prior to this rubber advent. We sought at one time to obtain a metal for dies, or swedges, as they were sometimes called, that would not shrink in cooling. We had preparations of tin, type metal, &c., and sought to overcome the shrinkage in the metal with the view of getting a plate that was exactly the size of the mucous membrane of that portion of the mouth which should be covered by it. A few years' experience, it will be remembered, showed that the theory was impracticable, and not only impracticable, but incorrect; that really those traces made on the casts or swedges did

shrink. That is my experience and the experience of many. I know it is the experience of some of our best men. Profiting by that experience since I went into the rubber work, I have brought into my practice a method that secures that end. I do it in this way: The experience of every one present will bear me witness that a ring upon a finger at some times, in some conditions of the flesh or tissue, is such that it will slip off easily, and at other times it can hardly be removed. Now, what is the difference? Cold shrinks or diminishes animal tissue, and heat expands it. When you put into the mouth the plaster of Paris, the very moment that same result commences to take place, heat is evolved that acts upon the membrane of the mouth and expands it. You get an impression of the mouth that is not an exact counterpart of what the mouth was before you put the plaster into it. It is very true that it is with great difficulty that you can remove that impression, and a great many argue that the impression must be a good one, because it adheres so tightly to the mouth, and is removed with great difficulty. This is not the reason why it adheres with such tenacity. It is because the soft tissues were expanded by the heat of the plaster, making a perfect adaptation to the surfaces of the one with the other, and you get the pressure of the atmosphere of fifteen pounds to the square inch. Negatively, that enlarging the tissues here crowds the plaster, or compresses it, and the result is that you have not a perfect impression of the mouth. My plan to overcome this difficulty is this: I take a tumbler of ice water and give it to my patient, and tell the patient to hold it in the mouth until it gets benumbed and chilled, and while this is being done I go into the laboratory and prepare my impression cup, which had been previously prepared somewhat with reference to that mouth. I prepare the plaster in no hurry, letting the patient take the icy water, and when it is warm throwing it into the spittoon and filling the mouth again. I then put in my plaster and I get,

as every one present will admit, a smaller impression than if taken with the mouth in its normal condition. I succeed much better in that way, and have made sets of teeth that the patients could not remove from the mouth, and after they had worn them three or four days, came to my office, claiming that I had cheated them by putting teeth in that were not intended to be removed. Another method I resort to sometimes to overcome that expansion in the mouth is this—let me, however, go back a little before I give it. A professor in Philadelphia has published a treatise upon the manipulation of rubber. He tells you that you should not varnish the plaster impression, but that you should coat it over with a thin coat of soap or soapy water, where the soap has dissolved with some little consistence; then put in your plaster, and claims that you get a cast more firm and a better impression. I admit that it is so, but deny that it is necessary. I take the cast or impression and give it, if time, two or three coats of gum shellac, taking care to apply it evenly, with a view of shrinking the cast I get from that impression, and make it smaller.

Dr. BERRY said the expansion of the plaster in setting renders our casts larger, as we all knew. He asked Dr. Spellman if, in varnishing, he varnished as much in the roof as the labial surface, with a view to make the cast less.

Dr. SPELLMAN replied that it depended entirely on the condition of the mouth; if the alveoli ridges were hard and unyielding he varnished equally; if they were soft and yielding he not only varnished, but laid on two or three thicknesses of tin foil, and put the varnish on two or three thicknesses. He went upon the general theory, in his operations, that we make our plates to fit only when they are pressed up and require but little pressure to put them in their place.

Dr. KELSEY said sometimes we think we get a good fit with a plaster cast, because it holds with such tenacity to the mouth, but sometimes when we make a plate in that way it

is not what we expect, and is not satisfactory. He wished to speak of the lower plates more particularly. He had had some difficulty sometimes with the lower plates rising up from the mouth, and had adopted a plan lately by which he found he got the suction more satisfactorily than in any other way. It was suggested by having a temporary plate made for a gentleman some sixty years of age. It would move about, and when he would bite upon one side it would tilt up. As it was a temporary case he wished to experiment on it, he took a file and filed a small groove around the whole arch, and, putting it in his mouth, found that it had remedied the defect.

Dr. BERRY: How far from the ridge did you file this groove?

Dr. KELSEY: Right on the top where the alveoli process ought to be, though there really was none. In a case where he had a good deal of difficulty he remedied it by taking a little square drill and drilling holes through the plate, when it held firmly. In taking it off he found each of these holes filled with the mucous membrane, which held it tightly.

Dr. HERRIOTT took impressions of the mouth with as little plaster of Paris as possible, and dropping them in water let them remain until the plaster absorbed all the water it would contain. After it became crystalized he took the impression, and around the mouth and at the arch of the palate pared off a little. There was as much difference in mouths as in faces, but in that way he was able to get very satisfactory fits. He had as a case, recently, that of a set of teeth of James E. Murdock. In his profession the great changes made in his mouth and face, bringing into exercise all the muscles of the mouth and face, had developed it beyond that of any mouth he had ever attempted to set teeth in. His teeth had first been put in by Dr. J. D. White, of Philadelphia, and next by a Dentist of Cincinnati. While at Cincinnati he threw them out in his lecture, but was enabled to

get them back with but few of the audience knowing any thing about it.

He said he was very much annoyed and had to be very careful with them. Dr. H. said he had left his office, not thinking they would do any better than they had. He went to Cleveland, and Dr. Horton went to see him, and the doctor reports the case a success. Dr. H. said, in his case, here moved quite an amount around, after he had taken from the impression so that he didn't think it would hold in the mouth, but after it was in the mouth awhile he found they became very firm.

Dr. KELSEY mentioned a case he had of congenital cleft palate, of a lady about forty-five years of age. The teeth had all been extracted, except the posterior bicuspid teeth above. The cleft was very large, reaching far forward. He took an impression in wax in the usual way, by filling the cup very full and letting the wax extend up into the fissure as far as it would, taking particular care to press it upward in the back portion of the cleft, and reaching back with a pair of plyers, drawing it pretty nearly to its normal condition, while the wax in the mouth was very soft. In pressing it in that way of course a portion of the wax extended up into the fissure, which he brought down as well as he could to the point he wished the plate to be. He poured the plaster in the usual way, though before pouring in the plaster he trimmed down the wax where it was needed. Then he took particular pains, after having it vulcanized, to make it antagonize on the teeth below. Thus vulcanized, it was pressed up into the fissure, so that after it was worn a day or two it produced a little irritation, it was then necessary to shorten that portion and round it down a little, to make it more agreeable to the patient. That was made in one solid piece, without any attempt at making a palate, but, to give her own words, she was "so pleased with the arrangement that she could not sleep that night." Before, she could not

blow out a candle; it seemed that the cavity was so large that the air passed through the nostrils, and some out of the mouth, in such a way that she could not blow a steady stream. But now she is enabled to blow out a candle, suck her food down without any effort, and has improved her speech very much. Dr. Kelsey also related his successful treatment of the case of a fractured jaw of a boy, who was injured by a fire engine. The appliances he used, and the manner of adjusting them, can not be well given here so as to be fully understood.

Dr. KEELY mentioned a case of an old gentleman seventy-five years of age, who was kicked by a horse and thrown against some logs, by which his jaw was broken between the front incisors. These were the only teeth he had that seemed to have any firmness. He had an incisor and two bicuspid on one side, none of which were firm, and no teeth on the other side nor none above. Dr. K. spoke of the difficulty in taking an impression in this case, and exhibited the manner in which it was done, illustrating the process by using the President as if he were the patient, in describing the appliances used. The jaw of the old gentleman got well, though his face was left somewhat disfigured.

Dr. G. W. Dunn desired to make some statements with regard to a specialty of his, as some of them were aware he had made a specialty of porcelain work. He thought he might safely say that it had made such an advance within a year or a year and a half past as it had never made before. He thought if the profession would look to their interest as they ought, they would find that they need not make so many miserable plates as they are making upon rubber. He was satisfied that in the hands of skillful operators, porcelain work can now be manufactured much nicer and better than any other work that has ever been presented to the profession. When he said this he did not say it egotistically; he said it because he believed it, and could produce the evidence to prove his assertion. The material, as now manu-

factured, can be furnished to operators in a plastic condition, capable of being moulded by the operator at his will, and the teeth placed in such position as artistic skill would dictate, giving, at the same time, the whole scope, shape and range desired for the teeth and color for the gums to the hands of the operator, which he thought could not be said of any other style of work. It appeared to him, if the profession would take the opportunity to examine cases that had been worn for twelve or fourteen years past, and then cases that are now being made by men who have not had long experience, but who can take hold of the work as now furnished them, that there would not be much rubber work made, but that they would lay it aside. He could give the testimony of hundreds, where they had worn rubber and where they had porcelain properly fitted in their mouths, where it would be almost impossible to get them to wear rubber, or any metallic substance, in the mouth. It appeared to him the profession are overlooking their interests in neglecting to investigate and understand the merits of porcelain work.

Dr. W. E. DUNN had for a long time felt convinced that if the profession could understand the merits of this style of work, they would be glad to give it their attention. With his experience he felt that he should not do his duty unless he expressed his confidence in it. He did not think it was because the profession have any design or wish to overlook a matter of this important character, but probably because it has been brought to their attention in its imperfect manipulation in the hands of some who had not the advantages they ought to have had. He found that persons who had given it their attention have been convinced that it has not the objections they had supposed it had. The satisfaction of patients who were using it is remarkable. He would be gratified if members of the Association and others, would give attention to the cases that might come under their notice, and examine the success of this work.

Correspondence.

EDITORS REGISTER: In the September number of the REGISTER some one, under the *nom de plume* of "Emery," answers my communication in the July number. One point in my article he seems to doubt, another he attempts to controvert, while as to another he claims to give a simpler method. As to the first point, as he did not discuss it, no answer is required. But the next point needs some explanation from me. I readily admit that Prof. Taft said that arsenious acid produced death in the Dental pulp, by entering into the circulation, and in no other way. But in this I do not admit that he was supported by his associate professors, or by one of them, at least (I heard but one other speak on this subject.) If I recollect aright, Prof. Spaulding said that it was not known how arsenious acid produced death in the Dental pulp. For, that upon chemical analysis of a pulp that had been devitalized with arsenious acid, not a *trace* of the acid had been discovered. It was not my object, however, in writing my communication, to show how arsenious acid acted in devitalizing, but to show how to give it a fair chance to act effectually when we call it into use.

"Emery" objects to my practice, because it is too difficult and tedious, and produces too much pain, and proposes a "simpler method," that of putting the nerve paste upon the sharp point of an instrument and puncturing the pulp. Now, upon the trial of this experiment, he will find that the paste will, in many cases, be pushed up the blade of the instrument just as far as it enters the pulp, and will consequently be withdrawn with it; or that the orifice closing up, the paste will not come in contact with the capillaries, so

that it can pass into the "circulation." Still there is another chance for a failure. The blood may wash the paste away from the orifice of the puncture.

Since my practice has been questioned, and I was not explicit about the procedure in my former article, I deem it advisable to give it in detail. Obtunde the sensibility of the pulp wherever it can be done with the narcotic spray, (always taking the precaution to protect the pulp with wax or cotton) or have a narcotic mixture of equal parts tinc. aconite, opium and belladonna, into which dip a pledget of cotton, and put in contact with the pulp a few minutes before cutting. Remove the cotton and cut off the surface of the pulp at one stroke; give time for the bleeding to subside, wash the cavity with tepid water, then wipe it dry. Spread the paste on a small pledget of cotton that has been previously moistened with carbolic acid; then place the pledget with the paste in contact with the cut surface of the pulp; on this pledget place a dry one, on the dry one another that has been dipped about half way its bulk in sandarach varnish. The pulp may be removed twelve or twenty-four hours afterwards.

"Emery" is undoubtedly very unhappy in his comparison when he says his plan is much more acceptable than mine. Just as the short, sharp work of the bullet would be more acceptable to the condemned than the lingering process of strangling with a rope, while, in reality, my process is the cutting off the head of the condemned (pulp) with an axe—his is the thrust of the dagger into the body of the condemned (pulp).

M. McCARTY.



DEAR REGISTER: In looking over a recent number of a Dental Journal, I noticed an article on "taking plaster impressions for partial cases," in which the author gave his method of procedure where the remaining teeth were long, with large crowns and small necks, or inclining toward each other.

Though his plan is very good, it occurred to me that the way I am in the habit of doing this thing may have the merit of being more simple and equally effectual. It is this: I select the cup most suitable and take an impression in wax in the usual manner, only that I make no attempt to get the roof of the mouth perfect, save where the posterior border of the plate is to come, and I draw it in the manner indicated to secure as perfect an impression of the teeth as possible. Then before the wax is cool, I trim it with a warmed knife, cutting off all that projected beyond the cup posteriorly, and shave away to the depth of an eighth of an inch all that which came in contact with the gum and hard palate, except at the posterior border of the impression, when I leave about a line's breadth, (to keep the plaster from running down the throat) and that which is close to the teeth, to preserve their form. The surface thus made I roughen by coarse scratches for the plaster to fasten to. Thus prepared, I re-introduce the now cold impression, to see that it has not been changed, and to observe the best manner it is accommodated to the teeth. I then pour the plaster where the wax has been removed to the amount that will slightly exceed the quantity of wax which was shaved away, and proceed in the usual manner of taking plaster impressions, pressing it firmly home. All excess of plaster will pass out over the gum where the teeth have been removed. I allow the plaster to become perfectly hard, having no fear of its being held by the teeth, as it does not come in contact with them. This method secures the accuracy of wax around the teeth, combined with the perfection of plaster for the palatine surface and gums.

Yours, truly,

H. C. BARTLESON.

Selections.

INFLUENCE OF DIET UPON THE MOTHER'S MILK.—Dr. Subotin, of Petersburg (*Vierteljahrsschrift f. d. Prakt. Heilk.*, No. xxv, 1868), has instituted a series of experiments in regard to the influence of diet upon the quantity and quality of mother's milk, and his conclusions are as follows: 1st. That the daily yield of milk is increased by animal food, and is diminished by a diet of vegetables. A marked diminution of the milk, and, when persisted in, an entire suppression, is shown when food of a fatty nature has been given only. 2d. The relative proportions of the elements which compose the milk are influenced by the character of the food. The amount of solid matter is increased by an animal diet, and the fatty material is shown by this increase. The increase of casein is less marked. The increase of these substances in the milk is absolute, not relative; animal food increases the daily amount of the milk secretion. There is scarcely an appreciable change of the proportion of the albuminous and saline ingredients. Bensch supposed that the saccharine matter of the milk was reduced by the use of an animal diet, but it is found not to be so. The experiments of Drs. Bensch, Playfair, and others, that the fatty constituents of the milk are increased by vegetable food, and by an animal diet diminished, are not confirmed by him. The solid properties of the milk, especially the butyraceous, are but relatively increased, and at the same time a decrease in the sugar is shown. 3d. From these observations it would seem that the fatty matter of the milk is created, for the most part, from albumen.

DENTISTS IN BELGIUM.—In the bill now before the House of Representatives it is proposed that dentists should possess the degree of Doctor of Medicine and Surgery. If the bill becomes law the dental profession in Belgium will be on a footing with the profession at large.

PRESERVATION OF ANIMAL TISSUES.—Dr. Coolidge showed a foot and lower part of leg injected seven weeks before (48 days). The preparation used was a mixture of carbolic acid, glycerine, sugar and gelatine. The parts were in perfect preservation, soft and natural in appearance. Dr. Coolidge said:

“The carbolic acid and glycerine are the principal preservatives. Last year I assisted at some experiments made at Clermont. The preservative used there for dissections is a solution of the hyposulphite of soda (so I was told). It is not as good as the arseniate of soda, used in the Harvard Medical School. It does not smart if it gets under the nails, as does a solution of arsenic. The arseniate of soda does not either. The solution of the hyposulphite is expensive. Glycerine and sugar was used combined with it, and did tolerably well, but was not permanent. If molasses was substituted for the sugar, it seemed to hasten the decomposition. There was also a smell similar to that produced by the fermentation of molasses. Parts of the muscles of the thigh, injected, I believe, principally with a solution of sugar kept well during the hot weather, hung up without protection, though a mould would appear on it; it remained soft, with no loss of bulk. The most remarkable anatomical preparation, as regards the mere keeping of them, were those of Brissaud and Lakowski. An arm dissected and a heart were in the Musée Orfila, and were a great progress over the usual way. The relations of the parts were preserved; they were not dried up, as they commonly are.

“The process was a secret, but I was told that it was principally an injection of carbolic acid and sugar, with, perhaps, an after-coat of a solution of gelatine, or gelatine in sugar and water.”



THE MICROSCOPE: *Its Use in Entomology—in the First American Discovery of the “Trichina Spiralis.”*

“MYSTERIES OF THE MICROSCOPE.—Not that there is any especial hidden mystery in the innocent-looking, modest little instrument that presents objects to us as they really are, making huge monsters out of mere mites, and as often pre-

sending most magnificent animals in what, to the unaided eye appears an uncouth atom. The mystery is of the microscope. Its power, to our intelligence, as at present educated, is unintelligible, and would be magical, but that we know the microscope to be innocent of the black art, and the maker only a man like ourselves—a trifle more clever, perhaps, but not a mite of a magician. So much of thought is involved by the advent of a red mite upon the edge of the white sheet now under the point of my pen, and the ruby dot—a mere point to the naked eye—hurrying over the white field, a perfect crimson streak. If a man were to run at that rate, according to bulk, he would get over the ground about a thousand miles an hour. and race entirely round the world in a day and night, with three hours left for rest and refreshment.

“Arresting the atomic red runaway, and clapping him under my SEMPER PARATUS Craig Microscope, in an instant I had under my eye a wonder, a bright crimson bird, wingless like the penguin, but perfect in proportions, and of exquisite beauty; its downy plumage brilliantly bright; its six perfect bird legs, three set on either side. I saw there the secret of the rapid race. Fancy a turkey gobbler with six legs, each one putting in its quota of speed! Wouldn't the old fellow outrun a hurricane? Then there are the five white delicate toes, more like a fair lady's fingers, to each foot; black, lustrous eyes; and beak like that of the great 'war eagle'—all harmonious; but strange—very wonderful—mysterious—the manner in which that single bit of clear glass metamorphoses the tiny red mite into a great magnificent bird! There, go out with you, and go your way, diminish to a red atom, almost infinitesimal again! Scud—scatter, crimson speck, and leave me to my say of my magnifying miracle.

“Before I was the proprietor of this Craig glass, for which I paid \$2.50, I had for ten years used a French instrument, which cost me, I think, \$55.00, of feebler power, and less reliable. With the French 'Cressaix,' I searched long and fruitlessly for the 'trichina spiralis,' that savants guessed was in our American pork. With the \$2.50 Craig I laid hold of it plainly and positively at the second trial. That was two years ago this month. Is it recorded that any one had discovered the pork pests earlier than that date? If not, then

they were first found under an American microscope; and so much for the skill and ingenuity of American mechanism.

“For the farmer and fruit-grower, especially, these simple, practical instruments are invaluable; and, to their children, a source of education, amusement, and real instructive pleasure, of which they will never grow weary. A bright little girl of ten years, daughter of a farmer friend, to whom I loaned mine, actually acquired a fuller and more correct knowledge of half a hundred insect inhabitants of her neighborhood, in six weeks’ practice with the microscope, than a professed entomologist, principal of a neighboring seminary, had acquired in thirty years of study.”—*From the American Farmer. Dr. R. C. Kendall.*

CONTINUOUS ELECTRICAL CURRENTS IN THE TREATMENT OF THE SUSPENSION OF VITAL ACTIONS CAUSED BY CHLOROFORM.—MM. Onimus and Legros, after examining the effects of constant electrical currents on the heart and its nerves, were led to believe that such currents might prove efficient in stimulating the heart’s action after its paralysis by chloroform inhalation. They have, accordingly, carefully investigated the subject (*Comtes Rendus*, Mars 9, 1867). They assert that in chloroform syncope there is more or less paralysis of the muscular fibres of the heart. The means hitherto recommended to treat this condition, such as artificial respiration, flagellation, and aspersion with cold water, are insufficient, as they do not directly influence the muscular action of the heart. Interrupted currents of electricity should not be used, as they diminish and even stop the respiratory and cardiac movements. The value of continuous electric currents was tested by experiments on dogs, rabbits, rats and frogs, in the following manner: A rat was placed under a glass cover along with a sponge saturated with chloroform. Its respirations gradually became jerking, and in one minute they had nearly ceased, while the animal was now completely anæsthetized. It was left for thirty seconds longer under the glass cover, and after being withdrawn, it was left untouched for another thirty seconds. No cardiac action was now percep-

tible. A continuous electric current was then passed from the rectum to the mouth; nothing was observed for several seconds, when the hearts beat reappeared, and then imperfect respiratory movements occurred, which, by the by, became quite normal. The electrolyzation was now stopped and the animal gradually recovered. Even when left for two minutes in a state of apparent death, the application of a continuous current resuscitated the animal. If an interrupted current were employed in place of a continuous one, death always occurred; but if the former had been employed for only a short time, life could still be restored by the use of a continuous current. The experiments on frogs were of great interest, as the various stages of the effects could be distinctly recognized, especially if the heart were previously exposed. As the exhibition of the anæsthetic was continued the beats diminished in force and number and then ceased; if a continuous current was now used, the beats recommenced. The frog was left to itself for twenty-four hours after complete chloroform anæsthesia; the heart was then quite immobile, and although a continuous electric current could not cause any contractions of the voluntary muscles, it caused a renewal of the heart's action.—*Journal of Anatomy and Physiology*.

ODONTOMES.—M. Broca, the distinguished surgeon and physiologist, has just elucidated the pathology of the follicles of the teeth, the normal evolution of which had already been described in works on histology. M. Broca does not think that the deviations from this normal evolution give rise to peculiar products, but only to tumors made up of the general hypertrophy of the dental substance. These tumors, to which the author gives the name of "odontomes," present two forms: some always remain in the state of more or less soft tumors; whilst others, either wholly or in part, assume the hardness of teeth, producing shapeless, irregular dental masses, sometimes growing to a very large size. In fact, any tumor formed from one or more of the substances entering into the formation of a tooth is due to the dentification of a soft tumor of the same form and volume which originally contained hypertrophied odontogenic tissues. This hypertrophied tumor stands in the same connection, with regard to the dentified tumor, as the normal dental bulb does to the healthy tooth.—*Lancet*.

RICORD.—We condense the following account of the famous Syphilographer from the columns of *L'Evenement Medicales*:

Philip Ricord was born in Baltimore, U. S., December 10, 1800. At twenty years of age he went to Paris to complete his education and study law. Having one day accompanied a friend to the Hotel Dieu, he became so enamored of a lecture of Dupuytren, that at once, without consulting his father, he deserted the benches of the School of Law for the amphitheater of the School of Medicine. At the end of three years of diligent study he was appointed interne, and entered the service of Dupuytren.

In 1826, young Ricord received his degree of doctor, and settled himself at Paris, to continue his studies and prepare himself for future eminence. Shortly after, owing to pecuniary embarrassments of his father, he was compelled to seek remunerative practice, and repaired for this purpose to Olivet, near Orleans, but with the determination to return to Paris at the first opportunity. Two years afterwards a public concourse was held at Paris for several public positions as surgeon; Ricord entered the lists and received the highest honors. Three years afterwards he was appointed surgeon-in-chief to the Hopital du Midi, which position he retained until his retirement in 1860.

Ricord is, perhaps, the most busy physician at present in Paris. His motto is *Ægrotantis animam reconfortare conor*. Rising at seven o'clock, he takes a cup of coffee, and then enters his *coupe* to pay his professional calls. About three o'clock he returns to take his only meal for the day. Then begin his office consultations, which continue without interruption until midnight and sometimes longer.

The beautiful dwelling which he occupies in the *Rue de Tournon* is divided into two distinct portions; at the left are the household apartments, at the right his professional apartments. The latter compose the doctor's study, and five rooms, always full during consultation hours. The first is the common reception-room. It is literally packed with men, each one with a card, upon which is a number telling the order in which he will be attended to. The second apartment is a reception-room for ladies, who ascend by a separate and private stair-case. Into the third apartment are introduced those who require to announce themselves at once, and those who have letters of introduction. The fourth apartment is reserved for the doctor's friends and profes-

sional visitors. All these rooms are furnished with curiosities, paintings, statues and other works of art.

The library in the study is surmounted by a gallery of busts of eminent medical men of all times, and with glass cases at the bottom, in which are kept the most beautiful collection of instruments it is possible to see, occupies three sides of the apartment. The fourth side is decorated by three portraits, that of Dupuytren in the center, with one of Orfila on the left, and one of Ricord himself on the right. Ricord has received more decorations than any other man in France, except Alexander Dumas.

SUBPERIOSTEAL RESECTION.—Before the Medical Society of Lyons, M. Ollier recently presented four patients upon whom had been practiced subperiosteal resection of the elbow joint. The first was a young girl thirteen years old, and the operation dated from ninety days. Resection had been made of all the inferior epiphysis of the humerus, to the extent of thirty millimetres, and of the superior extremities of the cubitus and radius. There had been reproduction of bone and complete cicatrization; the movements of flexion were entirely re-established, with the power of semi-extension and semi supination.

The second operation dated from fifteen months; resection of four centimetres of the humerus; reproduction of the bone; the patient had been able to resume her duties as cook, and in spite of the occurrence of two attacks of arthritis, she could now execute extended movements of extension and supination.

A third patient, twenty-four years old, some months after resection of the articulation, presents complete cicatrization, perfect reproduction of the bones and movements of flexion and extension, pronation and supination, nearly as extended as in the normal conditions.

The fourth had only just laid aside the plaster bandage, and the muscles were weak from inaction; nevertheless, it was evident that the bone had been reproduced, and movements could be executed to about the third of the normal extent.

In these operations, M. Ollier preceded the resections by carefully detaching the periosteum with his instrument, spe-

cially adapted to the purpose. On account of the age of the patients, it could not be expected that this membrane would regenerate osseous tissue to repair the loss of substance of the limb; but it was able to regenerate fibrous and osseous masses, which, accumulating around the articulation, rendered it solid and prevented lateral mobility. This solidity was also insured by the employment of an immovable plaster bandage during all the period of periosteal generation.

It is noticeable that the experiments and clinical facts of Ollier by no means sustain the old theory which regards the periosteum itself as the generator of bone by a process of secretion. In all cases a subperiosteal layer of medullary cells is preserved with the membrane itself, and the osseous tissue developed at their expense, as in the normal process of evolution. If this layer be not preserved, no bone is reproduced.



TEST FOR PURE GLYCERINE.—Owing to its impurities, the glycerine of commerce often acts upon the skin and wounds as an irritant, even when diluted with water. The following test serves to distinguish the impure glycerine from that purified by distillation, which possesses such remarkable soothing properties. Mix equal portions of glycerine and rectified sulphuric acid. If the glycerine be pure the mixture will become of a light brown color and will show a certain increase of temperature, and a few bubbles of air will be evolved by shaking. On the contrary, the impure glycerine will give, upon agitation, a large amount of gas. This ceases when the mixture is allowed to remain quiet, but recommences upon a renewal of the agitation.



TESTING WATER FOR ORGANIC IMPURITIES.—Half fill a common water bottle, cover its mouth with the hand, violently shake for a minute, and quickly apply to the nose. If nothing unpleasant is detected, tightly cork the bottle, set it in a warm place about the temperature of one's body for a couple or three days, and repeat the shaking. Water of very bad quality may thus be recognized without the trouble and expense of analysis.

WAS THE NERVE REGENERATED?—Two interesting cases have recently occurred at Strasbourg. In one, the details of which are strikingly similar to the case lately observed in Professor Richet's ward, we read that M. M. Bœckel and Hergott have had under their care a little boy, aged five years, who fell upon a shoemaker's knife, and received such a severe cut at the wrist that the radial artery, the median nerve, and the tendons of the various flexors were completely severed. A suture was applied to the flexor of the thumb and the superficial flexor of the fingers, but the median nerve was left untouched, as well as the other muscles; only the hand was bent upon the forearm, and maintained in that position. Complete and immediate cure was the very fortunate result; motility and sensibility were completely recovered. M. Chereau, whose able "*Chronique Departementale*" in the last number of *L'Union Medicale*, furnishes me with the above details, concludes his notice of the case with the following points of interrogation: Was the median nerve regenerated? or have the severed extremities remained apart? and in the latter case has the nervous fluid continued to circulate through the capricious meanderings of anastomoses?

The new French silver is apparently an improvement on the old-fashioned German silver, and is stated to be applicable to all the purposes to which ordinary commercial silver is applicable. It is composed of copper 56 per cent., nickel 40.64, tungsten 2.80, aluminum 0.56. It is a white, ductile, malleable, tenacious, sonorous alloy; its specific gravity is nine-tenths that of silver, its metallic lustre superior to that of silver, and its fusibility less, probably on account of the tungsten it contains.

THE FEE FOR TESTIFYING AS EXPERT.—Dr. Bebee, of Chicago, was called to testify in a case before the United States Circuit Court at Chicago, not long since, as a medical expert. He refused to testify unless he received fees as an expert, to the amount of \$25. The Judge decided he was right and the fees were paid.

Editorial.



ROSE PEARL.

We are having frequent inquiries in regard to this material as a base for artificial teeth. We will endeavor to answer some of them, so far as our limited experience will justify. We first saw this work more than two years ago, but have had personal experience with it only within the last few months, and our experience thus far is very gratifying, and coincides entirely with some others in our immediate vicinity, who have also, to a very considerable extent, been testing its merits. This style of work has some very desirable qualities. In regard to the durability of the material, we have strong faith that it will prove to be equal to any material now in use for this purpose; we do not mean by this that it is as unchangeable as gold or platinum in substance, but with these materials, as every one of experience knows, artificial dentures, though well constructed, are, in many cases, of but temporary duration, for teeth break from them very readily, and, indeed, we have oftentimes seen gold plates broken entirely through, and frequently none of the metals are wholly compatible with the living tissues upon which they are placed.

In the use of Rose Pearl as a base, the teeth are far more firmly attached than they can be upon gold plate; indeed, with these dentures, the breaking of a tooth is a very rare occurrence. The teeth, for the most part, are very firmly embraced by the material; and it possesses sufficient elasticity to accommodate any sudden jar. It is almost impossible to break the plate by bending or twisting. The plates may be made almost as thin as gold plates, and still have sufficient strength, so that there is an entire absence of the thickness and clumsiness attending rubber plates. It is lighter than any other style of work. The material itself constitutes the artificial gum, so that teeth without porcelain

gums are used. This greatly facilitates the work of construction, and permits a far greater variety in the arrangement of teeth than it is possible to obtain with the ordinary blocks or sections used in rubber work.

Many questions are asked in regard to the method of working it. Experience warrants the assertion that it is about as easily worked, when the process is well understood, as any thing else upon which artificial teeth have been mounted.

One gentleman who has been using it but two months, says he now makes it easier than he ever did rubber work.

The method of construction doubtless will be much modified and improved; indeed, little points of improvement are being made almost every day, which will certainly ultimate in rendering the process a very simple and easy one.

Dr. McClelland, the inventor, is not putting this style of work into the hands of the profession as rapidly as we think he should; he desires to perfect and simplify as much as possible before putting it out. We are not certain that this is the best course; if fifty or a hundred good, careful experimenters were at work, the progress most probably would be far more rapid; at least it has proved so with other things.

We trust that this style of work may be taken up by the profession generally at the earliest possible period, and let whatever there is of good in it be brought out and made useful.



DENTAL DEPOT—A CHANGE.

It will interest and perhaps surprise the profession to learn that our much esteemed friend and brother, Dr. George Watt, has, for the present, at least, given up the active practice of the profession; but he has not gone so far that we can not reach him, for he is more accessible now than before. He and Dr. N. W. Williams, of Xenia, have purchased the Dental furnishing establishment so successfully carried on for the past few years by J. S. Walter & Co., and formerly by John T. Toland. This has always been a popular Dental Depot, and we are sure will be none

the less so under the new management. The present proprietors are well known to the profession throughout the West, and have personal acquaintance with a large majority. Their intimate acquaintance with Dental materials, instruments and appliances, will enable them to meet most fully the wants of the profession; their determination is to keep all supplies of the very best qualities.

We very much regret to lose Dr. Watt even temporarily as a practitioner, but we are very glad he turned his face no farther from us. The science of our profession will lose little or nothing by this change, but perhaps gain; for the strong probability is his health will be much improved by the change. The name of the firm is George Watt & Co. George Watt stands at the wheel.

T.



THE MISSISSIPPI VALLEY DENTAL ASSOCIATION

Will hold its regular annual meeting, in the rooms of the Ohio Dental College, on Wednesday, the 3d day of March, beginning at ten o'clock A. M. We trust there will be a large gathering of the profession at that time. The meetings of this Society are always the occasion of much professional interest, and we hope the approaching meeting will be of equal, if not greater usefulness than those that have preceded it. The essays and discussions in this Society have, in a marked degree, embraced and blended the scientific and practical features of the profession. We shall hope to meet all of its old friends and all its new ones, and those who wish to become such.



COMMENCEMENT.

The Commencement Exercises of the Ohio College of Dental Surgery will be held on the evening of March 3, in the lecture room of the College. An address will be delivered by the President of the Board of Trustees, and other interesting exercises appropriate to the occasion will take place. All who feel an interest in the Institution and its work are most cordially invited to be present.

FLORAL GUIDE.

We have just received *Vick's Floral Guide* for 1869. This is a beautifully printed and illustrated catalogue of seeds, and guide in the flower garden. It is the most complete work of the kind we have ever seen; it embraces about one hundred pages, beautifully illustrated, with over one hundred and fifty fine wood engravings of flowers, plants and vegetables, and an elegant colored plate, a bouquet of flowers. It contains accurate descriptions of the leading floral treasures of the world, with plain and full directions for sowing seed, transplanting and after culture. The author says:

"The *Floral Guide* is published for the benefit of my customers, to whom it is sent free without application, but will be forwarded to all who apply by mail for ten cents, which is not half the cost. Address, JAMES VICK, Rochester, N. Y."



THE OHIO DENTAL COLLEGE ASSOCIATION

Will hold its annual meeting, on Tuesday, March 2, at ten o'clock A. M., at which time it is very desirable that all the stockholders be present, as matters intimately connected with the interests of the profession, as well as this Institution, always come before this Association for its consideration. There is each year three members of the Board of Trustees to be elected, and other matters of importance to receive attention. We hope all the friends of the College may be present.

THE DENTAL REGISTER.

VOL. XXIII.]

FEBRUARY, 1869.

[No. 2.

Original Communications.



ADDRESS AT THE COMMENCEMENT OF THE OHIO COLLEGE OF DENTAL SURGERY.

BY DR. G. W. KEELY,

President of the Board of Trustees, March 3, 1869.

YOUNG GENTLEMEN : With the close of this evening ends the twenty-third annual session of the Ohio College of Dental Surgery.

For the past five months you have devoted your time and energy in completing the regular course of studies prescribed by the officers of this institution; and the Faculty now recommend you as worthy recipients of the highest honors she can bestow.

Your perseverance and industry has enabled you to conquer every obstruction that appeared in your way, and this fact should encourage you to go on in the good work; never faltering until you have attained an honorable position in your profession.

And now that you have assumed a new position, it should be your aim to excel in every department of Dental science; not being content in occupying a medium standing among your professional brethren, but by an honorable and gen-

tlemanly manner in performing every duty pertaining to your calling as a professional man, and your devotion to your specialty, be able to add something new and valuable to the common stock of knowledge, which will benefit your profession and prove a blessing to mankind.

In addressing you as gentlemen, we do not wish you to imagine we use the title in the empty perverted sense it is so often used in the ordinary intercourse in life. In this free land of ours, where titles and distinctions of rank have no existence, the term is applied to men of education and good breeding, without reference to occupation.

An officer in the army of the United States may be tried by his brother officers for conduct unbecoming a gentleman, and if found guilty, he is dismissed the service in disgrace. If any man is charged with not being a gentleman, it is considered the most degrading that can be preferred against him.

In our "Dental Associations" every member subscribes to a code of Ethics, for the violation of which he is liable to be tried for conduct unbecoming a professional gentleman, and if found guilty he is expelled.

We do not desire to discuss this subject at length, but more particularly consider it in its highest acceptance.

A gentleman in the true sense is uniformly known and distinguished as the soul of honor, generous to a fault, with refined feelings and dignified deportment on all occasions; one in whose nature no mean and selfish feelings find lodgment; one whose self respect makes him careful not to offend those with whom he comes in contact.

A gentleman is possessed with true manly courage, moral and physical, and dares to do right.

Whether you are engaged in the duties of your profession, or enjoying the pleasures of social life, always be gentlemen.

To be gentlemen, you must be true men, nothing more nothing less.

The real gentleman must be honest, earnest and kind;

honest in avoiding all pretence, earnest in pursuit of duty, kind in extending charity to all. Such a man is as far removed from the sycophant as from the boor, and he who is thus honestly in earnest to please, can not fail to exhibit true gentlemanly kindness.

But, my young friends, do not for one moment ever imagine you can permanently promote your pecuniary or worldly interest as a member of an honorable profession by the least infraction of those strict rules of gentlemanly conduct.

The profession to which you are welcomed to-night, has for its object the cultivation and practice of the healing art—your mission is to *save*, not *destroy* those invaluable organs God has given his creatures for a wise and beneficent purpose.

No other profession has advanced more rapidly within the last quarter of a century than the one you are just entering.

Good honest men are laboring with a zeal almost superhuman to clear away the rubbish and expel the many errors that exist, that the *pure gold* may be exposed to the sun-light. Truly the advancement of science in the Dental profession has been almost miraculous, and it is your mission, young gentlemen, to push on the car of progress until we reach that degree of perfection so “devoutly to be wished for.”

As you go from these Halls, for a time you are like soldiers called from the training school to the realities of the battle-field. Like them you are armed for your warfare, and have acquired a practical as well as a theoretical knowledge of your profession. But this alone is not sufficient to insure success, and build up an honorable reputation. Energy and perseverance are the golden keys that unlock the volume of History, reveals the riches of the past, and unfolds the secrets of the future. Like the fig-tree, they bear fruit all the year round, but he who would partake of the fruit must cultivate the tree.

The simple mention of perseverance pre-supposes opposi-

tion. This is the case in every profession and calling, as well as ours; indeed, life is made up of responsibility, failure and success. Every rose has its thorn, every pleasure (save that of doing good) its pain; but he who has not witnessed the darkness can not half enjoy the light, and he who has not known opposition can not realize success.

We would impress upon your minds that perseverance is a necessary virtue, not only that we may gain fresh laurels, but that we may retain those already won. If you do not practice the virtue of perseverance, the evil of indolence will soon control all the springs of action, and sad indeed will be the wreck of manhood's noblest aspirations.

Chesterfield tritely said, "Indolence is a sort of suicide;" and most assuredly inactivity is to-day the greatest enemy of man, the adversary of progress, the guardian of ignorance, the fruitful parent of vice and poverty. Study then to show yourselves "workmen that need not be ashamed," and ever bear in mind that in every profession, as Webster once said, "There is room enough at the top." You can profit by the experience of those who have labored in the past, and by the virtue of energy and perseverance, find room as Webster did, at the top.

To insure success, you must devotedly love your profession, and take an active interest in all that pertains to it; for ours is a noble profession, a beautiful art. To relieve suffering, to arrest disease or remove its cause, to remedy the defects of nature, to imitate her noblest handi-work, to rob Time of his premature spoils, to embalm the smiles of youth and beauty, and perpetuate them to old age; all these pertain to our calling, and constitute just grounds why we should love our profession.

We would particularly warn you not to be in too great a hurry to get rich, for at best it is a slow process in our calling.

In this fast age, when everything seems inclined to move with telegraphic speed, when men accumulate princely for-

tunes in a day, the forests are cleared as with a whirlwind; railroads are stretching their iron arms far toward the Pacific, opening the way for teeming millions to cultivate the rich soil, and dig deep into the bowels of the earth to extract its treasures; towns and cities rising as if by magic, inviting the fearless to accumulate riches; many young men are influenced to depart from the path of honor and virtue, in the effort to outstrip their fellows in the race for wealth.

Many otherwise truly good men have split upon this rock; finding themselves favored with an extensive practice, and surrounded by competitors, they hurry through their operations, having only a selfish interest in view, entirely forgetting the solemn obligation due their patrons for the confidence thus placed in them.

Gentlemen, this is no slander on my fellow men, the facts in the case will bear me out in this statement, humiliating as must be its mention, to every honorable man. And although we feel you would scorn to thus impose on those who place themselves in your hands, having confidence in your skill, and believing you would conscientiously perform the best operation in your power; we would warn you that there is no greater temptation than this in the path of the young man commencing his profession.

Hasty operations is the motto of too many in these times, but they buy their "ill gotten" riches at too dear a price.

Let me show unto you a more excellent way; honest operations secures true friends, and leaves a conscience "void of offence." Should the "evil spirit" ever thus tempt you, we would advise the posting of the "Golden Rule" over your dental case, so that on all such occasions you can read your duty, there so truly defined. Depend on it, gentlemen, in every occupation in life, the tree will be known by its fruit.

We would urge you to foster Associations for the promotion of Dental knowledge, where you will be benefited by the experience and opinions of others, and have your own theo-

ries tested by those capable of judging of their utility. The argument so often adduced against uniting in these Associations for mutual improvement is, want of time.

A good old Quaker once remarked to a young man who neglected duty for want of time. "Well friend, thee has all the time there is."

Gentlemen Graduates,—And now it affords me sincere gratification to present to you these Diplomas, conferring the degree of Doctor of Dental Surgery, to which by patient continuance in well doing you are so justly entitled. While they remind you that your studies here are at an end, they also admonish you that other and equally important duties begin. As you have acquitted yourselves with credit here, may you be equally successful in the battle of life, and finally finish your course with joy.

In connection with the Diplomas, as a parting gift from the Faculty, I also present to each of you a copy of the Holy Bible,—“Time’s treasure and the wonder of the wise.” It is the only book that recognizes the idea of the universal brotherhood of mankind; the only book that dispels the darkness of the “valley and shadow of death.” By accepting its truths not as a creed, but reducing the same to practice, you can not fail to arrive at honor and distinction in life, and be known as Christian gentlemen.



SUPPURATION.

BY W. H. THRIFT, D. D. S.

WE constantly read articles on the different modes of treatment of different diseases, and seldom have the pathological facts of the case presented at all.

I shall endeavor, by this article, to give the reader as clear a pathology on suppuration as my limited knowledge will permit.

Suppuration is a result of inflammation, and is a work of destruction, and is, therefore, in a certain sense, to be con-

trusted with the effusion of lymph, which is intended to be a process of construction or réparation.

Suppuration is often useful, by terminating inflammation; it removes superfluous products and parts that have been injured by it, or its causes, and yet suppuration is an exhausting process.

In suppuration the inflamed vessels are more or less destroyed, while their supplying trunks are obstructed by lymph. In cases where the process of suppuration is limited by solid effusion, which is either the remains of the early products of inflammation, or it may be thrown out expressly for the purpose of defending the adjoining parts from the action of the pus. Pus thus formed is called an abscess.

The occurrence of suppuration is indicated by heat, pain, increased action, and other signs of irritation. The pain is often of a throbbing character, and more severe where surrounded by bony walls, as is the case in alveolar abscess. As suppuration advances, the swelling becomes softer, and if within reach so as to be felt by the finger, at first it will yield under the pressure, and afterwards will be felt the fluctuations of fluid matter. The redness present in inflammation is diminished in the part where there is suppuration; this is due to the suppurating mass. In external inflammations the redness of the skin becomes deeper before suppuration, and when suppuration reaches the skin, a pale spot is seen, which by its fluctuating feel, is an indication that it will soon make an external opening for exit.

Alveolar abscesses are, in most cases, due to a diseased condition of the tooth pulp, in which we may have a determination of blood to the pulp, and on account of the smallness of the foramen at the end of the root, congestion may follow, then inflammation and suppuration, which will terminate in the formation of an abscess. Dr. Taft, in his work on Operative Dentistry, says that the common cause of abscess is the presence of irritating matter in the canal at the point of the root, which no doubt in many cases extends

through the foramen at that point, inducing inflammation and resulting in abscess.

I think I have shown that an abscess is the result of supuration, and that suppuration is the result of inflammation.

I trust the foregoing remarks will prove suggestive, and assist in drawing attention from the profession to a subject of great interest.



CHLORO-NITROUS OXYD.

BY DR. J. C. PARKER.

Read at the Michigan Dental Association.

GRAND RAPIDS, Oct. 12th, 1868.

Mr. President and Gentlemen of the Society:

In the subject of anæsthesia and anæsthetic agents we are all more or less directly interested, and to Dentists generally the question as to what is the most safe and reliable anæsthetic agent, is one of great interest and importance to all.

Such being the fact, I shall make no apologies for calling your attention to the discovery of a new agent, which for want of a better name I shall designate as CHLORO-NITROUS OXYD. It is prepared by mixing with pure nitrous oxyd a certain portion of the vapor of chloroform during its manufacture. The quantity of chloroform used is comparatively small, the amount vaporized and mixed with sixty gallons of nitrous oxyd will probably not exceed one half a drachm.

During six months of its exclusive use by the discoverer, Dr. W. P. Barker, and a somewhat limited use by myself, chloro-nitrous oxyd has proved itself a safe, pleasant, and efficient agent, producing results satisfactory both to patient and operator. It is administered in the same manner as nitrous oxyd, the patient, however, being allowed to breathe more or less air as may be deemed necessary during its exhibition; the profundity and length of the anæsthetic

state being governed very much by the skill of the operator in that respect.

If a short operation is to be performed, similar to extracting a single tooth, it is administered in the same manner as nitrous oxyd.

Its most marked effects upon the patient during its exhibition, are: 1st. Complete muscular relaxation; 2d. The quiet condition of the patient,—the most intractible, through fear or other causes, being under the control of the operator; 3d. The natural appearance of the countenance while under its influence; 4th. The anæsthesia being more profound, and the patient not being troubled by the peculiar vagaries and fancies of the imagination. There is a feeling of satisfaction produced in the mind of the patient, very gratifying both to the patient and operator; and while there is not the exhilarating effect often produced by nitrous oxyd, there is not the depression produced by chloroform.

I presume that all Dentists who have had much experience in the use of nitrous oxyd, have had patients declare after a successful and beautiful operation, that “they knew all about it,” and felt more or less pain. Though this be purely imaginary on the part of the patient, and the impression will sometimes gradually pass off, it produces a feeling of dissatisfaction extremely annoying to the operator.

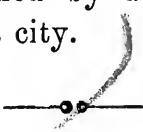
The quietness of the patient while under the influence of this agent, is probably due to the complete muscular relaxation, inducing a feeling of perfect ease, and causing the patient quietly and imperceptibly to pass into a state of complete anæsthesia.

The effect of this agent does not pass off as suddenly as does that of nitrous oxyd, the patient gradually returning to consciousness, but not so slowly as to interfere with the time of the operator.

Again, our experiences seem to indicate that the blood does not immediately flow as freely as when nitrous oxyd is used.


Another thing of interest to the profession is, that the same results can be obtained as heretofore, with about one-half the volume of gas formerly used.

I have thus briefly stated a few of the more important points of this agent, and should more information be required, it can be obtained by addressing the discoverer, Dr. W. P. Barker, of this city.



IMPERFECT ENAMEL.

BY S. P. CUTLER, M. D., D. D. S.



Furrowed enamel is not always an indication of bad taint in blood of an hereditary nature. Not long since a young lady called on me to have her teeth examined.

There were some few decays, with this exception all of her teeth were perfect, except the lower front and lateral incisor of the left side, which were both cross-furrowed deep into the enamel some three or four grooves in each, and otherwise not well developed. She informed me that two corresponding deciduous teeth were knocked out when she was about four years old. This statement settled the rising suspicions in my mind. The high respectability of the party should of itself have done away with all doubts, even without any knowledge of the case.

The above case goes to establish beyond any reasonable doubt the connection existing between the first and second set of corresponding teeth, showing the importance of retaining the deciduous teeth up to the eruptive stage of their respective successors, and that too, in a healthy condition.

The above case shows conclusively that the nutrition of the crowns, especially the enamel, was disturbed to a considerable extent by the accidental loss of the deciduous teeth at too early a stage; had they been retained two years longer, no defects could have existed in the two permanent teeth referred to.

The importance of not only retaining the deciduous teeth up to the full period when nature makes provision for their leaving, by root absorption, as well as their healthy preservation, can not be too highly estimated.

CINCINNATI, March 8th, 1869.

To the Editors of the Dental Register.

GENTLEMEN: Owing to the fact that a majority of the Junior students were not present at the Commencement Exercises of the Ohio Dental College, I beg leave through your columns, to offer the thanks of the Southern students, to the Faculty and Northern students, for the kindness and uniform politeness extended to us during the past session.

We trust that in future all similar associations between Northern and Southern men may prove as agreeable.

Very respectfully, Your obedient servant,

JAS. B. ASKEW,

Committee of One.

Correspondence.

“SOUTHERN DENTAL ASSOCIATION.”

MR. EDITOR: In the *Cosmos* for January, 1869, under the above caption, there are some criticisms that deserve a passing notice, on account of their manifest unfairness and perversion of facts. J. H. McQ. quotes: “The impression has become general among Southern Dentists that sectional feelings govern the action of the majority of the American Dental Association.” True, sir. And then says: “It would be unjust, however, to permit such unfounded statements to pass unanswered. To refute this, it is only necessary to turn to the elections of officers for the past few years,” and goes on to enumerate five gentlemen who have been elected to office from the Southern, or late “slave-holding States.” “The evidence,” he says, “thus presented of the absence of sectional feelings is overwhelming, for, although the attendance on the part of Southern practitioners has been limited for other reasons than those that are given above. The proposition of officers each year has been *decidedly* in their favor,” and quotes what he said at Chicago as a “settler to this question.” “We have come hundreds of miles away from home, let each and all, therefore, turn out the silver lining of their manhood, etc.” Let us examine as to the officers. This Association has had eight elections of officers, forty-eight in all, and up to this date two Southern men, just two Southern born men, (the writer and Dr. Rodgers, of Kentucky) and no more have been elected to office in the Association. The others whom he names as being Southern men are from the North, and most of them are what, in common parlance, are termed “Yankees,” and have simply “emigrated South.” Some of them have boasted to the writer that they were live Yankees. So two in forty-eight is *decidedly* in their favor. This has not been

the result of accident, but of preconcerted action on the part of Northern members, so he says, (who doubts it?) but not for the reasons assigned. This Association was organized in Washington City (Southern soil) and has never met in a Southern State since that date, (1860) although frequently invited and urged by Southern delegates to do so. Why? Because it has been controlled by the "action of a majority of its members," who are Northern men, and for reasons satisfactory to themselves, the place of meeting has been fixed in some of the Northern States. At the meeting in Chicago, when J. H. McQ. so eloquently exhorted his brethren to "turn out the silver lining of their manhood," and while the name of the writer was before the nominating committee, he was approached by a member of that committee direct from the committee-room, and his politics asked. It was not doubted that the committee sent him.* And again immediately after the election of officers another member of that committee approaching him, said, in an apologetic tone and manner, "I voted for you, and you would have been elected but for some doubts as to your loyalty, but you know, sir, this is a National affair, and it would not do to elect any one to an office in it but Union men."

The next year at Boston, the writer in the chair, a motion was put and carried to invite General Butler to visit the Association. When the nays were called for some one voted nay rather loudly, when a Northern brother, in a rather boisterous tone said, "Some of us are abolitionists, let him come in." The offensive manner in which this was done was unmistakable. After General B. retired from the hall, a resolution was offered and passed, "That this Association is happy to see and hear Major General Butler," etc. (See proceedings, p. 241, with protest, which reads, "The undersigned members and delegates to the American Dental Association earnestly protest against the action of a majority of this body in refusing to reconsider the vote by which the

* He was not sent by the Committee. I was Chairman, and know whereof I speak.

above resolution was passed. The ground of our protest is this: The subject matter contained in said resolution we regard as wholly foreign to the objects for which this body was organized.") This protest was signed by ten delegates. While the motion to reconsider was pending, J. H. McQ. "turned out the silver lining of his manhood," by making a speech against it, and thereby defeated it by a small majority. A manly, generous appeal was made in its favor by L. D. Shepard, of Boston, Massachusetts, and an entreating one by F. Y. Clark, of Savannah, Georgia (he who boasts the secret service medals given to him by General Wilson and others of the U. S. Army,) but no appeals would avail. The resolution was spread upon the minutes and published. And yet J. H. McQ. says: "And those who have attended the meetings from that section (South) and participated in the proceedings, will acknowledge that other than sectional or political questions have *fully* engaged the time and attention of the delegates." In the face of the above facts they will make no such acknowledgment. This, Mr. Editor, is the manner in which "year after year the olive branch has been cordially extended by the Northern members of the Association to their professional brethren in the South."

Without inquiring into the motives of one making such erroneous statements as quoted, we place these facts before our profession as some of the reasons why a Southern Dental Association is desired. The author of the article in the *American Journal of Dental Science*, which has so offended J. H. McQ., is not known to the writer and he has no interest in defending him. This article has been written solely in the interest of truth, and in no offensive sense, whatever. The writer does not mean to be offensive to any one alluded to, and has no unkind feeling to any member of the Association. He has attended five meetings of the Association, has been honored by it with office, and personally has always been treated with the utmost courtesy and consideration by his Northern brethren. He hopes to be on hand again in due time.

Nashville, Tenn.

W. H. MORGAN, M. D., D. D. S.

Proceedings of Societies.

OHIO STATE DENTAL ASSOCIATION.

THIRD ANNUAL MEETING.

COLUMBUS, Ohio, Dec. 1st, 1868.

Society met pursuant to adjournment. President J. Taft in the Chair. On motion, G. W. Keely was appointed Secretary *pro tem*.

Minutes of the last annual meeting, and the called meeting of May 20th, read and approved.

Dr. H. A. Smith and C. R. Butler, appointed to fill the vacancy in the Executive Committee.

Roll of members called, when the following named were present: Drs. G. W. Keely, J. Taft, H. A. Smith, C. H. Harroun, J. Williams, W. M. Herriott, M. DeCamp, F. H. Rehwinkel, T. W. French, C. R. Butler, B. Strickland, W. P. Horton, W. E. Dunn, B. T. Spellman, A. Berry, A. A. Blount, L. Buffett, N. W. Williams, D. R. Jennings, C. R. Taft, H. H. Harrison, J. L. Dunlap, W. R. Lilley, G. W. Dunn, C. M. Kelsey.

On motion, Drs. DeCamp, Rehwinkel, and H. A. Smith, were appointed to report rules by which the Committee on Membership shall be governed. This committee to report at the next annual meeting. The Committee on Membership were requested to receive applicants and report a heretofore.

The following report of the Executive Committee was adopted:

1st. Report of Officers.

2d. Election of Officers at 3 P. M.—first day.

3d. Report of Committees, and Miscellaneous business in order at any interval in discussions.

Subjects for discussion :

- 1st. Means for controlling the flow of saliva during operations.
- 2d. What are the indications for extraction of teeth.
- 3d. Mechanical Dentistry.
- 4th. Dental Medicines.
- 5th. Methods for the preservation of the Dental pulp.

M. DECAMP,
C. R. BUTLER,
H. A. SMITH, } *Committee.*

The committee appointed to procure a seal, for the use of Society, and certificates for applicants, to be conferred by the Examining Board, would respectfully report : That they procured a seal at a cost of ten dollars, and certificate engraved on stone, with one hundred printed copies of same, at a cost of twenty-five dollars, which bills were paid by the Treasurer. Adopted.

Signed, H. A. SMITH,
G. W. KEELY, } *Committee.*
A. BERRY,

Adjourned to meet at 2 P. M.

G. W. KEELY, Sec. *pro. tem.*

AFTERNOON SESSION.

Minutes of morning session read and approved.

On motion, A. G. Adel, Phonographic Reporter, was employed at five dollars per session. Dr. C. R. Taft's dues for the past year were remitted, he having been out of practice during that time.

The first subject for discussion was taken up, "Means for controlling the flow of saliva during operations."

Spoken to by Drs. Spellman, Buffett, Butler, N. W. Williams, Blount, H. A. Smith and others; illuminating this subject of so much importance to the profession.

The second subject for discussion was taken up, "What are the indications for extraction of Teeth." An interesting discussion ensued, containing much information of vital importance to every person; participated in by Drs. DeCamp, Butler, Buffett, Dunlap, Kelsey, Horton, Keely, Smith, Herriott, Berry, Harroun, Spellman, I. Williams, and Rehwinkel. On motion of Dr. Keely, Dr. Hardy, of Cincinnati, was invited to participate in the discussion, who then spoke to the subject.

The hour for the election of officers for the ensuing year having arrived, a ballot was taken, when the following named were declared duly elected :

President—W. P. Horton, Cleveland.

1st Vice-President—H. A. Smith, Cincinnati.

2d Vice-President—F. H. Rehwinkel, Chillicothe.

Corresponding Secretary—C. R. Butler, Cleveland.

Recording Secretary—G. W. Keely, Oxford.

Treasurer—A. Berry, Cincinnati.

Dr. Horton, President elect was conducted to the Chair, when he made a neat little speech, and was enthusiastically applauded.

On motion of Dr. Spellman, the following resolution was passed :

Resolved, That a committee of three be appointed to report to this society the names of those subject to expulsion by reason of a resolution passed at the last annual session. The Chair appointed Drs. Spellman, Blount and Buffett.

Dr. Rehwinkel offered the following, which was adopted :

Resolved, That the Committee, composed of Dr. Spellman and others, appointed to ascertain the delinquencies of members, shall likewise investigate the condition of the books, accounts and papers of A. W. Maxwell, Secretary, and request him to turn over all funds, papers and books, now in his possession, either to the committee or the proper officer of this society.

The following report was offered and adopted. "The committee to whom was referred the matter of delinquencies

of members for last year and this, would respectfully report, That the names herewith attached are already expelled, by reason of the following resolution passed at the last annual meeting of this body, viz.: *Resolved*, That any member now in debt to this society who shall continue so until the next meeting, shall appear in person or by proxy at the same, and show cause for delinquency, and those failing to do so shall cease to be members, and that the Treasurer be requested to notify delinquents."

[Seventeen names are reported, which are withheld from publication for prudential reasons.—*Sec'y.*]

Signed, B. T. SPELLMAN, }
 A. A. BLOUNT, } *Committee.*
 L. BUFFETT, }

In pursuance to a notice given at the last annual meeting by Dr. A. A. Blount, It was

Resolved, That the By-Laws be so amended as to provide that the annual meeting shall be held on the first Tuesday of December each year, and that the semi-annual meetings be discontinued.

Dr. Berry offered the following which was unanimously adopted :

Resolved, That the thanks of this society be tendered to Dr. C. H. James, of Cincinnati, for originating the action resulting in the passage of the Bill "To regulate the Practice of Dentistry," by the Ohio Legislature.

Adjourned to meet at 7 P. M.

EVENING SESSION.

Dr. H. A. Smith, Vice-President, in the Chair. Minutes of afternoon session read and approved.

The third subject, "Mechanical Dentistry," was then discussed with unusual interest and at length, by Drs. Berry, Spellman, Kelsey, Herriott, Dunn, and others. By permission, Dr. Kelsey made a statement of a case of fractured Lower Jaw, now under his treatment.

Dr. Keely, by request, described his treatment of a case

of compound fracture of the Lower Jaw for a man seventy-six years of age ; treated successfully two years since.

On motion, the society adjourned to meet Wednesday morning at 9 o'clock.

WEDNESDAY MORNING, DEC. 2D.

Society met pursuant to adjournment. Minutes of last session read and approved.

On motion, The Executive Committee who have in charge the Rubber contest, were requested to report progress. Dr. Taft, Chairman, made a lengthy report in regard to the Cincinnati cases ; this subject was further discussed with much earnestness by several members.

Committee on Membership recommended Dr. T. M. Talbott, of Galion, and Dr. Hardy, of Cincinnati, both of whom were elected.

Dr. DeCamp offered the following, which was passed. *Resolved*, That it be left to the judgment of the Executive Committee to determine whether it is best to carry up the Rubber suit, after they have consulted Col. Fisher, and after it has been determined whether a permanent injunction is maintained, and that the committee make a report to the profession, the condition of their finances.

The following was offered and adopted :

WHEREAS, The Ohio State Dental Society fully appreciates the untiring and energetic efforts made by its Committee, which had in charge the defense of the members of the Dental profession in the late Rubber suits ; and whereas this Society has unlimited confidence in the sound judgment and discretion of all the gentlemen of whom this Committee is composed, be it therefore

Resolved, That the hearty and sincere thanks of this body be tendered to the Committee, for invaluable services rendered to the whole Dental profession.

Resolved, That this Society solicits the continuance of the same Committee, and confidently expresses the hope that all

necessary steps will be taken by said Committee, to guard the interests of the profession in the future.

F. H. REHWINKEL.

On motion, the society adjourned to meet at 2 P. M.

AFTERNOON SESSION.

Society met. Minutes of morning session read and approved.

On motion, it was

Resolved, That this society pay all expenses which may accrue in making settlement with the late Secretary.

The several bills presented were referred to an Auditing Committee, composed of Drs. Herriott, Smith and Blount.

On motion of Dr. Keely, Dr. Hall's dues for the past year were remitted, on account of severe affliction.

A committee of five, composed of Drs. DeCamp, Keely, Berry, Harroun and N. W. Williams, were appointed to procure the Incorporation of this Society.

Dr. Hall, of Piqua, was called upon to give a statement of the attack made upon him by assassins, by which he came near losing his life.

Dr. Taft made a statement of his late microscopic examinations of enamel and dentine.

Dr. DeCamp, Chairman of Committee of Incorporation, reported that there was no law by which this Society could be incorporated; but that the law Regulating the Practice of Dentistry, constitutes this society a legal body. Report accepted, and committee discharged.

Report of Auditing Committee:

Your Committee have examined all bills presented, and find them correct, and recommend the payment in full: Bill for seal, \$10; Certificates, \$25. For Hall and Janitor, \$14; Dr. Williams, for stationery, \$2.40; Dr. Horton, for same, \$7.90; Reporter, \$25.

On the following, 60 per cent: F. H. Rehwinkel, \$43.50;

M. DeCamp, \$47; A. A. Blount, \$10; J. Taft, \$106; C. H. Harroun, \$50; W. H. Herriott, \$10.20; W. P. Horton, \$54.

W. M. HERRIOTT,
H. A. SMITH,
A. A. BLOUNT, } *Committee.*

The President announced the Standing Committees for the ensuing year:

Executive Committee—M. DeCamp, H. A. Smith, W. M. Herriott.

Dental Ethics—N. W. Williams, F. H. Rehwinkel, G. W. Keely.

Publication—J. Taft, G. W. Keely, B. Strickland.

Essayists appointed—H. A. Smith, A. Berry, C. R. Butler, J. H. Paine, C. H. Harroun.

[All of whom are expected to be prepared.—*Sec'y.*]

The Executive Committee propose the following order of business for the next annual meeting.

Reading minutes of last annual meeting.

Reports of Standing Committees.

Election of Officers, to be held 3 P. M., second day.

Exhibition of Instruments and appliances, from 2 to 3 P. M., second day.

SUBJECTS FOR DISCUSSION.

1st. Diseased condition of the soft tissues of the mouth, and their treatment.

2d. Disease of the antrum and treatment.

3d. Mechanical Dentistry.

4th. Necrosis of the teeth, causes and treatment.

5th. In what cases should the Dental pulp be destroyed.

M. DE CAMP,
H. A. SMITH,
W. M. HERRIOTT, } *Committee.*

After attending to some miscellaneous business, the society adjourned to meet at 7 o'clock.

G. W. KEELY, *Sec'y.*

EVENING SESSION.

President Horton in the Chair. Dr. Spellman was appointed to notify delinquents for dues; of the action taken by this society. Drs. DeCamp and Jennings were appointed to select delegates to attend the next annual meeting of the American Dental Association.

A recess of half an hour was allowed to examine Dental appliances. On resuming business,—

Dr. J. Taft read a very interesting paper, subject,—“The instrumentalities of professional education.” This paper was approved, and discussed with much earnestness by several members, and referred to the publishing committee.

The following report was then offered and adopted:

Your committee would recommend the following names as delegates to the next meeting of the “American Dental Association;” G. W. Keely, L. Buffett, A. A. Blount, A. Berry, C. R. Butler, W. R. Lilley, B. T. Spellman, N. W. Williams, W. P. Horton.

M. DE CAMP,
D. R. JENNINGS, } *Committee.*

“Calcification of the Dental pulp” was discussed by J. Taft, Harroun, Spellman, Butler, and others.

Professor Reamy being present, made some very interesting remarks in regard to difficult dentition; several others discussed this subject.

After a late and interesting session the Society adjourned.

C. R. BUTLER,
Secretary, *pro tem.*

NEW YORK STATE DENTAL SOCIETY.

An adjourned meeting of this Society was held at Albany, February 2d, 1869.

The organization was fully perfected by the adoption of by-laws and a code of ethics.

The President read an inaugural address, giving a concise history of the rise and progress of Dentistry in the United States, showing the rapid advancement made during the nineteenth century, and that from the absence of proper restrictions many were entering upon its practice, without going through a proper course of education, and that the ranks of the Dental profession were now swollen to such magnitude that the time had evidently arrived when some legal barrier should be raised and a higher degree of qualification demanded for the protection of the public and the salvation of such important organs as the teeth. The State Legislature, on the 7th day of April, 1868, passed a law to regulate the practice of Dentistry, and for the organization of Dental Societies, which will prove of great benefit, although inadequate to bring about a full reform. It is certain that any body of professional or scientific men are better judges of the qualifications of those engaged in their particular calling than the public at large, and that each profession, especially in those branches of science pertaining to health, should be left to govern its own members.

Dr. John Allen, of New York, read a paper on artificial dentures, which evinced great research and was eminently practical, showing what could be accomplished in the perfect restoration of the contour of the face and the natural expression, the loss of which necessarily results from the loss of the teeth.

Prof. N. W. Kingsley, of the New York College of Dentistry, read a short paper on Dental art, introductory to an extempore lecture, illustrated by a series of crayon sketches on canvas, and also demonstrated in one case on the human subject, showing what wonderful changes may take place in the human face divine by the loss or restoration of the teeth. The doctor struck out in an entirely new field in physiology, and evinced himself the true artist that he is.

The State Medical Society being in session at this time, sent in a resolution to the Dental Society, expressing their

cordial approbation and countenance in the steps taken for the elevation and advancement of Dental and Medical science.

It may not be generally known that, in conformity to the above named Dental law, a district society has been formed in each of the eight judicial districts of the State, and also the State Dental Society, which is composed of eight delegates from each of the district societies, permanent members elected by the State Society from Dentists in this State, and honorary members from other States or countries.

OFFICERS.

President—Dr. A. Westcott, Syracuse.

Vice President—Dr. W. B. Hurd, Brooklyn.

Secretary—Dr. L. W. Rogers, Utica.

Treasurer—Dr. B. T. Whitney, Buffalo.

The Board of Censors is composed of

1st District—Dr. J. G. Ambler, New York.

2d District—Dr. W. B. Hurd, Brooklyn.

3d District—Dr. Alex. Nelson, Albany.

4th District—Dr. Z. Cotton, Cambridge.

5th District—Dr. A. Westcott, Syracuse.

6th District—Dr. R. Walker, Oswego.

7th District—Dr. F. French, Rochester.

8th District—Dr. R. G. Snow, Buffalo.

A full list of Delegates was appointed to the American Dental Association, which is to meet at Saratogo on the first Tuesday of August. Also Dr. J. G. Ambler, of New York, as delegate to the Dental Society of the State of Pennsylvania; Dr. George, E. Hayes, of Buffalo, delegate to the Ohio State Dental Society, and Dr. B. T. Whitney, of Buffalo, delegate to the Dental Association of Ontario, Canada.

It is now very important that every Dentist should connect himself with his district society, and thus bring himself within the pale of the law, and also make application to the Board of Censors of the State Society for a diploma, or to the censors of his district society for a license. The annual meeting will be held on the last Tuesday in July, 1869.

Selections.

THE PRINCIPLES REGULATING THE NATURAL EVACUATION OF ABSCESES: By SAMUEL LOGAN, M. D., Professor of Surgery New Orleans School of Medicine, late Prof. Anatomy Medical College of Virginia, etc.—Without a careful examination of the facts, nothing seems more beautifully made out than the theory of the natural processes involved in the elimination of collections of pus from the living body. This theory is so familiar to our readers, that I need not describe it in detail. It is embodied in the proposition or law that the collection progresses in the direction where there is least resistance, and ultimately ulcerates its way through to the surface, which had been previously strangulated by the pressure of the abscess against the blood vessels which supply it. But does this theory explain all the cases in which abscesses work their way to the surface? It does not. Many cases occur where the collection passes in a direction in which the anatomical constituents indisputably present much more resistance than over many other portions of the periphery of the abscess. As instances in point, I may cite the frequent passage of such collections directly through the toughest layers of strong and inelastic fascial expansions, instead of dissecting their way up or down the limb, along the muscular intervals, or between the bones. These glaring violations of the alleged law have long since caused me to doubt its validity, and to seek some more comprehensive generalization by which the phenomena may be more rationally explained. I believe I have succeeded in finding one. Let it be understood, however, that I do not undertake to deny the existence of the influences heretofore recognized as those by which these purulent collections are brought to the surface. I intend only to affirm that there is a more potent law which controls those influences, and sometimes even directly and successfully oppose them. I claim that there is a higher generalization by which the phenomena can be more rationally explained.

The law I would announce may be couched in the follow-

ing terms: *Abscesses, as a rule, must move in the same direction as the arterial blood current which mainly supplies their periphery and their so-called pyogenic membrane.* How this law works will be best explained by supposing a case of circumscribed abscess, and giving my views of the manner in which it progresses toward its spontaneous evacuation. Suppose an acute circumscribed abscess located just under the planter fascia, a deep "stone bruise," as it is vulgarly called. As such an abscess increases in size, it would tend, were its progress mainly dependent upon the degree of resistance met with at different points of its periphery, to move in almost any other direction than to the surface of the sole of the foot. But do we not often find such collections slowly and painfully working their way through the tough plantar fascia to this surface? How can this happen? The arterial branches which supply the periphery of such an abscess come from the two plantars. These lie deeper down than the abscess, and the branches which supply the periphery and walls of the collection pass consequently toward its deeper side. The result is, that on that side of the abscess the blood is carried by the finer arterioles uninterruptedly to the parts in that vicinity, and the radicles of the returning veins are subjected to pressure only at their termination. The result is, that the tissues on that side have their circulation comparatively intact even up to the plastic wall of the abscess itself. The nutrition of these parts is therefore but little disturbed, and we accordingly find that the wall of the abscess on that side is often seen to be decidedly thicker than on the side toward which the collection is moving; or, to express it in other terms, the nutrition of the parts on the *cardiac* is necessarily less disturbed than that of the parts on the *distal* side. The difference in the thickness of the plastic wall is the necessary result of this fact. But what is it that so materially interferes with the nutrition of the parts on the distal side? Most of the arteries which nourish that side *pass round the abscess, and the veins in returning are in like manner diverted from their natural course.* Both these vessels are therefore subjected to the lateral pressure of the abscess, the arteries, even before they have broken into their smaller branches, and the veins after their radicles have united into trunks. This condition of affairs necessarily leads to a most serious disturbance of the circulation, and a corresponding derangement of the nutrition of

the distal parts. The arterial coats presenting greater resistance than the veins, whose walls are collapsed more readily, more blood is carried to the part by the former than can be readily returned by the latter; and thus we have a tendency to the characteristic congestive form of inflammation usually seen in such cases when the collection gets near the surface. The same causes exist when the abscess is too deep for inspection and we are therefore authorized in presuming that this form of hyperæmia or congestive inflammation precedes the abscess from the commencement of its progress. The oedema caused by the congestion further impairs the vitality of the parts; these become sodden, melt down, and are absorbed or slough off; and in this way even the toughest layers of fascia are made to yield, if they lie over the distal wall of the abscess. But it sometimes happens that, propelled at first by these causes, the abscess comes in time to the immediate proximity of a layer of tissue whose vascular supply is derived from arteries flowing in an opposite direction. These vessels and their minute venules not being cut off in the rear—so to express it—carry a comparatively uninterrupted supply of blood directly to the tissues opposing the abscess; their corresponding veins and venules, being but little interfered with, return the blood, and the circulation and nutrition of these tissues are, it may be, even more active than those on the other side of the abscess. The abscess is now arrested, and a conflict ensues, with a change in the after direction of the purulent collection. The result is, that the abscess takes a new direction latterly, this being again regulated by the preponderating direction of the arterial supply to the remaining portion of the periphery of the same. As an illustration of this conflict between two arterial currents, I may instance the remarkable manner in which certain structures protect themselves from destructive progress of purulent collections. For example, the larger veins and arteries nourished by their own vasa vasorum, will turn aside the advancing abscess; the muscular tissue, protected as by a shield, in virtue of its liberal supply of vessels, will most successfully avert the threatened danger; while on the other hand the hard unyielding bone too easily yields to the pressure of an abscess resting on its surface, for the circulation of its outer layers comes from the direction of the periosteum, the arterial current thus coinciding with the progress of the abscess, and therefore being the

more readily cut off. Observe, too, in this last example, how the eroding process is more or less arrested as it approaches the interior of the bone. Here we find another arterial current coming from the opposite direction, *i. e.*, from the medullary vessels, and usually the progress of the abscess is here arrested. The same principles will be frequently found to apply to the elucidation of the so-called pressural effects of tumors. Take, for example, the case of an aortic aneurism resting against the spinal column, and excavating a bed for itself in the bodies of one or more vertebræ. If pressure alone can account for the absorption of the boney tissue in such a case, the *softer* of the two opposing surfaces should be the one to yield. But the bone and not the tumor becomes indented. The blood vessels supplying the outer layers of bone are cut off by the pressure of the tumor against the periosteum through which they pass, and the loss of nutritive activity in the bone is the result and the absorption follows. But this absorption is seldom, if ever, allowed to progress beyond a certain depth, and that limit is reached as soon as the tumor reaches the strata of bone whose nutrition depends on the liberal supply of blood furnished by the branches of the thecal vessels coming from the opposite direction as they do. Even in the oldest aneurisms we never find the whole thickness of the vertebræ destroyed. I have never seen or read of such a case. In fact, the application of this principal to all the clinical facts susceptible of explanation by it would take more space and time than is at present at my command, and I leave to the reader the further consideration of the subject in its suggestive details.



THE NEW WEBSTER is glorious—it is perfect—it distances and defies competition—it leaves nothing to be desired. As a monument of literary labor, or as a business enterprise, magnificent in conception and almost faultless in execution, I think it equally admirable; and if you should die to-morrow, you may feel that, so far as earthly honor is concerned, your monument is built. But I can not doubt that a grateful country will appreciate the immense service you have rendered to the national language, scholarship and reputation by this great work, and in due time render you an adequate reward.—*J. H. Raymond, LL. D.*

HYPODERMIC MEDICATION: By S. F. STARLEY, M. D., Fairfield, Texas.—The subject of Hypodermic Medication is one that has recently attracted much attention from that portion of the medical profession who endeavor to make their practice conform to the progressive stage of medical science; and few subjects now engaging the thoughts of investigators are likely to yield results more important to the practitioner of the healing art. Especially is this the case with regard to diseases of malarious origin, and of dangerous type—such as pernicious intermittent and congestive bilious fevers, where the stomach is too irritable to retain quinine, or from its diseased state will not readily absorb the remedy, so as to convey it into the circulation.

In such cases, the hypodermic syringe affords us a ready means of introducing the anti-periodic into the cellular tissue, from whence it readily filters through the thin walls of the capillaries and is swept at once into the blood currents, and commences its work of neutralizing and destroying the malarial poison—the deadly enemy, that has entered the circulation and taken possession of the citadel of life.

Given in this way, our remedy is subjected to none of the accidents that might interfere with its action if given by the mouth—such as loss of the dose by vomiting, injurious chemical actions that might readily take place in a disordered stomach, slowness of absorption, etc. But we know that the entire dose given in this way will take effect, and that a much smaller quantity is required to produce a given effect, than if administered in stomachic doses. From my own observations, I am inclined to think that the difference in dose should not be so great as is stated by some writers; but I am fully convinced that one grain of quinine, given hypodermically, is fully equal to thrice that quantity given by the mouth, and that it has the further advantage of much greater certainty of action—an advantage readily to be appreciated by every intelligent practitioner who has had much experience in the treatment of the malarious diseases of the South. In no disease with which I am acquainted, are the advantages of this mode of administering quinine more strikingly displayed than in the treatment of malarious hæmaturia; a congestive form of malarious fever, in which the morbid determination falls with such force upon the kidneys as to induce copious and even exhaustive hæmorrhage from these organs. The hæmorrhage recurring with each parox-

ysm of the fever, and in some cases continuing throughout the whole course of the disease.

In this disease, with which, unfortunately, physicians in this section of country are becoming but too familiar—the stomach is so irritable, and the bilious vomiting so constant that it is almost impossible in many of the cases to get the stomach to retain quinine long enough to affect the system; and yet, upon the prompt action of this remedy mainly depends the safety of the patient. In neuralgia, especially that form of the malady induced by long exposure to malarial influences, in which the chylopoetic viscera are always more or less diseased, the administration of morphia by the mouth constipates the bowels, and tends to increase the general derangement of the digestive apparatus. And yet, what conscientious physician would deny this “*Magnum Dei Donum*” to his patient, writhing under the malign inflictions of an excruciating neuralgia? Here the hypodermic syringe enables us to administer the soothing opiate to our patient without the disadvantage of inducing constipation or sickness. And here, too, it exerts in many cases a positively curative, as well as palliative action.

In sciatica—a most painful malady—there is, perhaps, no other treatment so effective as the hypodermic injection of atropine, from one-sixtieth to one fortieth of a grain, at intervals of three or four days. And I have no doubt but that in the course of future investigations other advantages of this method will be discovered and brought to the notice of the profession. At present it offers a profitable field of research for the earnest inquirer after medical truth, and enough is already known of its positive advantages to make it the duty of every practitioner to bring it to the aid of his patient in suitable cases. One advantage not to be overlooked, is, that it does not interfere with any other remedies that it may be deemed necessary to administer per oram. Hence there need be no waiting for the action of cathartics, as so many are in the habit of doing, before venturing to give quinine. This is no small item in treating malarious diseases that threaten to overwhelm the system before we can have time to put into practice the so-called preparatory measures of treatment. Here the hypodermic method enables us to secure the full effect of quinine at once, and thus procure its powerful aid in bringing the system into a condition favorable to the action of medicines addressed to the

liver, bowels, kidneys, stomach, etc. The preparation of quinine I generally use is a solution containing thirty two grains of the remedy to the ounce of distilled water, with the addition of ten drops of sulphuric acid to dissolve the quinine. The syringe I use holds half a fluid drachm, so at each puncture I can give two grains of quinine, which I regard as being fully equal to six grains given by the mouth. When a larger dose is required I make two or more punctures, and thus avoid the local irritation that would result from introducing too much of the solution under the skin at one point. For some time I did not observe this precaution, and injected two or more syringes full through the same puncture. This would occasionally be followed by induration or abscess, and, in one case, where the patient was excessively anæmic, a small portion of the integument sloughed out around the point of puncture. But nothing of the kind has resulted in my practice since I have adopted the plan of only injecting a single syringe of the solution at one point.

Of morphine, the best preparation is Magendie's solution, of which a quantity equal to one-eighth of a grain of morphine is a medium dose for an adult. And I will here say that I have never ventured to give morphine in this way to children. I think it would be dangerous, owing to their extreme susceptibility to the action of opiates.

I may conclude this paper by stating that I have used quinine hypodermically some hundreds of times, and with the exception of two or three cases of abscess, which gave little trouble, and the case of sloughing of a small portion of integument, above mentioned, have seen no ill result follow its use. But on the other hand its effects, when administered in this way, have been so prompt and so permanent, that several persons to whom I have given it now refuse to take the remedy by the mouth at all, and when quinine is prescribed, they insist upon having it injected under the skin.

It may seem to some that this subject is already too well understood to require much further notice in medical journals. But to such I would say, that this method of administering medicine is very far from being generally understood by physicians practicing in the country, and it is they who most frequently meet with the most alarming and most fatal attacks of malarious diseases, and need to be armed with every available means of coping with this deadly enemy of our race.

NEW MODES OF PREPARING OBJECTS FOR THE MICROSCOPE. In Mr. Lockhart Clarke's essay on the Intimate Structure of the Brain, contained in the Philosophical Transactions for 1868, we read that Gerlach now hardens the cord in a solution of bichromate of ammonia of the strength of from one to two per cent. The sections are then put into a solution of one part of chloride of gold and potassium to 10,000 parts of water, slightly acidulated either with vinegar or hydrochloric acid, for ten or twelve hours; when the white substance becomes of a pale lilac, while the gray substance is scarcely colored. They are then placed in a mixture of one part of hydrochloric acid to 2,000 or 3,000 parts of water for a few minutes. After this, the sections are steeped for about ten minutes in a mixture of one part of hydrochloric acid to 1,000 parts of 60 per cent. alcohol, and then for some minutes in absolute alcohol; after which they are made transparent by means of creosote, and put up in Canada balsam. Mr. Clarke adds: "This is rather a complicated process." A much simpler method has been proposed by M. Ravvier in the last number of Brown-Sequard's *Archives of Physiology*, which consists in the employment of picric or carbazotic acid. This acid is only moderately soluble in water, and a saturated solution may therefore be employed. It possesses the further advantage of being very cheap. It is admirably adapted for all tissues containing much blood, and therefore for specimens of liver, lung, etc. It appears to act by effecting coagulation of the albuminous substances, though, unlike alcohol and chromic acid, it does not occasion any fusion of the constituents of the tissue. The red globules retain their form and characters extremely well. The portion of tissue required to be examined should be plunged into the solution, and after the lapse of twenty-four hours, it will be found to have acquired sufficient firmness to permit of very fine sections being made with a razor. The saving of time by this method, as compared with the chromic acid, is immense. The preparations will take color from carminate of ammonia, and may be prepared in glycerine.—*Lancet*.

FLEXIBLE SULPHUR.—By adding to pure sulphur a four-hundredth part of chlorine or iodine it becomes very soft, so that it may be spread in thin leaves as flexible as leaves of wax.

THE THERAPEUTICS OF WAKEFULNESS.—Prof. William A. Hammond, M.D., communicates the following article on wakefulness to the *Detroit Review of Medicine and Pharmacy* :

Brushing the hair, or friction of the skin, as by rubbing the palms of the hands or the backs of the arms, will in some persons tend to induce sleep. Soothing sounds have sometimes a similar effect. On the other hand, persons whose occupations are noisy are apt to awake when the noise to which they are accustomed suddenly ceases. A miller has been known to wake up when the noise of the machinery stopped, and a man who had for many years lived within sound of the roaring of Niagara Falls, was unable to sleep at first on removing from the locality.

But agents more efficacious than such external ones, are those which lessen the amount of blood circulating in the brain. First may be mentioned food and drink, of whose happy influence a frequent illustration is given in the case of a late supper. During digestion more blood circulates through the gastro-intestinal vessels than when the abdominal organs are unemployed ; and this additional amount of blood must come from some other part of the body, since a marked excess of this fluid can not exist in two different parts at the same time, except in case of disease. That the amount of blood in the brain is diminished during digestion is evinced by the feeling of drowsiness commonly experienced, which is a perfectly healthy sensation. The food, thus taken as a therapeutic agent, should be easily digestible. The sensible physician will hardly resort to drugs, if such pleasant medicine as a good supper can be given with equally good effect.

In persons weak or anemic, especially women who have been rendered so by hemorrhages, a dose of some one of the various preparations of alcohol at bed time is frequently advisable. Of these, wines are not generally so admissible as the stronger preparations, such as spirits ; in this country whisky will be most easily attainable. A Methodist clergyman, who came under my care, had been unable, for seven or eight weeks, to sleep more than two hours each night. I prescribed a dose of whisky to be taken at bed time. He at first strongly protested against taking it, upon grounds of principle and his previous habits of total abstinence, but finally agreed to try the remedy. The first night he slept five or six hours, the second seven or eight hours ; his whisky was

then reduced in amount gradually, from half a glassful to none at all. He continued to sleep well, and had not formed any habit of drinking.

In healthy persons coffee is calculated to produce wakefulness; in others it acts as a hypnotic, much as other stimulants do in asthenic cases. For the latter purpose, do not trifle with it by administering a little of a weak infusion, but give strong doses at once. Much depends upon the method of making it. Exhaust the strength of three or four ounces of ground coffee by percolation, with rather a small amount of boiling water; and give without milk or cream. Tea is not to be compared with coffee as a therapeutic agent, in this connection. It acts in a similar manner, but not so efficiently.

Sometimes sleep may be produced by physical exercise taken regularly about two hours before bed time. This acts best in asthenic cases. It has been often noticed that change of air and carriage exercise produce sleep. The *modus operandi* of this I can not explain, any more than the familiar fact that the rocking of a cradle puts an infant to sleep.

Some time ago, in England, there was constructed a table, known as Darwin's table, for the purpose of producing sleep in the insane. It was circular, and rotated upon a screw at the center. On this the patient was placed, with his head at the center, and the table was turned, thus producing sleep according to correct physiological principles, although these principles were not then known.

The warm bath may be used as a hypnotic. In employing it, the head should be prevented from becoming heated, as by putting cold water upon it while the body is immersed; the application of cold water is, however, rarely necessary in the case of infants. The temperature of the bath is best regulated by the hand. Sometimes cold water alone applied to the head proves sufficient, without the warm bath. I remember having read somewhere in Graves' writings that the Indian women sometimes put their babies to sleep by giving their heads a cold douche; this was also applied in the British army at one time as a punishment, and, it was found, with the almost invariable effect of producing sleep.

Another remedy, often of much value, is the application of a sinapism to the epigastrium. How it acts I do not know; it can not well do so through the circulatory system, but may by impression through the nervous system. The position

of the body is important. In many cases, holding the head down produces wakefulness; such persons should, in case of wakefulness, go to sleep in the erect position.

Certain drugs form another class of agents for the production of sleep. That which has been longest in use is opium. As regards its power of bringing on sleep, the dose of opium varies in different patients. In small doses of half a grain to three-fourths, as an average, it acts as a stimulant; in moderate doses of one or two grains it is hypnotic; and in larger ones it produces stupor, and not true sleep. Narceine, one of its constituents has been found to produce profound and continuous sleep, but the ordinary preparations of it are too uncertain to be relied upon, and it is too expensive for frequent use.

Hyoscyamus sometimes acts excellently; it has the advantage over opium of not producing headache and constipation the following day. The tincture, especially Neergaard's, may be given in doses of a drachm to a drachm and a half three times a day, if necessary.

Oxide of zinc may prove serviceable in some cases. It came into use in the treatment of the nervous condition preceding delirium tremens. It has also been of value in hysteria when everything else had failed. Its dose is, as a maximum, two grains three times a day; as much as four grains may be given at the same intervals, but this quantity will generally produce irritability of the stomach.

Phosphorus is a remedy which has come into use more recently, in the class of cases of which we are speaking. It is supposed to act by supplying a deficiency in the elements of nervous tissue, increasing the amount of protagon. Owing to its chemical properties, it is not easily administered. It can be given in the form of phosphorated olive oil, in the proportion of four grains to the ounce. It is preferable, however, to boil twelve grains of phosphorus in one ounce of almond oil, and filter. The oil absorbs four grains of phosphorus, so that each minim contains $\frac{1}{120}$ of a grain. Half an ounce of the oil is now mixed with an ounce of gum arabic, and fifteen drops of some aromatic oil are added. Of this mixture the dose is fifteen drops, equal to five drops of the phosphorated oil, and containing $\frac{1}{24}$ of a grain of phosphorus.

I have used this remedy in eight cases with success, and failed in two cases. I try to get three doses taken before

bed time, and thus far have generally succeeded in producing the desired effect on the second day, if I had not on the first. The dose may be increased a drop a day, till twenty drops are taken, or signs of gastric irritation supervene. I would not advise giving it in larger doses. In one of my cases, nausea was produced on reaching twenty drops, but sleep ensued also.

But of all the sleep producing agents at our disposal, the bromide of potassium is most deserving the name of hypnotic. I have never seen it fail when given in sufficient quantity. A healthy adult may take from twenty to thirty grains three times a day; the latter dose is not too large when it is needed at all. Sometimes it produces, among its other effects, great weakness in the legs, and a staggering gait, strongly resembling that of a person intoxicated with alcohol. In fact, I know of a gentleman who, while under the influence of this drug, was twice arrested in our streets for drunkenness. Bromide of potassium occasionally produces also a great lowness of spirits, and a disposition to cry. It should be administered very much diluted. It may be conveniently prescribed in one ounce to four ounces of water; a drachm dose of this to be given in at least half a tumblerful of water.

A remedy which I have used recently, especially in cases of nervous excitement where a sedative seemed indicated, is *sumbul*. This is a plant of the same family as *valerian*. I have used it in conjunction with bromide of potassium in epilepsy, with the result, as I think, of increasing the effect of the latter. The dose of the fluid extract (*Neergaard's*) is from twenty drops to a drachm three times a day.

A NEW ALLOY OF ALUMINUM, consisting of one-third silver and two-thirds of aluminum, has been introduced into the arts. It is said to be harder than silver, but more easily engraved.

SORE GUMS OR THROAT.—Refined saltpetre is very useful in the treatment of these affections. Take a bit as big as a pea and let it slowly dissolve in the mouth, and from time to time repeat this and great relief will be experienced.

DEPRESSION AND REPLACEMENT OF THE SUPERIOR MAXILLA (LANGENBECK'S OPERATION.) Service of Dr. Cheever. CASE I.—*Naso-pharyngeal Polypus*.—(Vide Surgical Cases for 1867) The patient was a student, aged 19 years. Thirteen months previously to his entrance to the Hospital for his present disability, he had undergone an operation for the relief of disease of which this was the recurrence; and the history of the growth dated two years and a half before that time. Its development had given rise to the following symptoms: profuse epistaxis, complete obstruction of the nostril, and the discharge of a thin and offensive fluid. Examination discovered the presence of a firm, lobulated tumor pressing down on the soft palate and filling the upper and back part of the pharynx. The general condition of the patient was good, and the growth was not painful.

Operation.—It was removed by temporary depression of the right upper maxilla, as follows: The primary incision was carried from near the inner canthus of the eye, downward along the fold at the side of the nose, around the ala, and through the commissure of the upper lip. The flaps were reflected so as to expose the body of the bone. The symphysis of the jaw was divided along the hard palate, and a section made with a saw across the bone from the tuberosity into the middle meatus of the nose. The section of the bone was depressed, so that it was held only by its posterior attachments. The tumor was thus exposed and reached. Its attachments to the body of the sphenoid bone and to the upper and back part of the pharynx were divided with some difficulty with scissors, and the point of section (two inches square) cauterized with strong nitric acid. The bone was replaced and held well in position by a wire around the adjacent incisor teeth. The soft parts were easily apposed and retained by silk sutures. The hæmorrhage was inconsiderable. The constitutional disturbance which followed the operation was comparatively slight. With a dressing of equal parts of tincture of myrrh and water, the wound healed satisfactorily, and throughout the convalescence there was no complication to impede recovery. In nineteen days the ligatures had all come away and there was no purulent discharge. The bone was in excellent position and motionless. After thirty-five days he was discharged well.

Symptoms of recurrence of the growth were noticed after eleven months. The nostril became obstructed as before,

and there was a feeling of fullness in the head. Otherwise than this the tumor had caused no inconvenience. There was no appearance of any disease in the pharynx, but Dr. Langmaid, with the rhinoscope, discovered the fibrous mass occupying its former position and attached, like its predecessor, to the inferior aspect of the body of the sphenoid bone and to the adjacent region of the pharynx.

Second Operation.—The steps in the operation for its removal, the operation being performed at once, were almost identical with those of the former one, and the lines of section were in the cicatrices of those of the year previous. Owing, however, to the thickening of the bone in the course of healing, it was necessary to remove a small portion at the inner angle, just below the orbital process, in order to expose the growth. The tumor, which was of the size of an English walnut, was removed by section of its pedicle with scissors, and the bone was thoroughly scraped. The hæmorrhage was not sufficient to require ligatures. The bone and soft parts were opposed as in the former operation; a gutta-percha plug between the teeth and a bandage around the lower jaw, and over the head, aided in supporting the parts.

Convalescence, in this case, was more rapid, even, than in the primary operation. Without complication or drawback, recovery proceeded steadily, and after twenty-seven days he was discharged with the wounds perfectly healed, and the bone firmly in its place.

Editorial.

THE PRESENT STATUS OF THE RUBBER QUESTION.

Inquiries are constantly being made in reference to this subject, and to those most interested to know, we have, from time to time, by circulars and letters, endeavored to convey the desired information, so far as it was possible to do so. A great many questions have been asked, even by those entitled to full information, that it was impossible for us to answer, and, in addition to this, a great deal of information called for, and even demanded, by those to whom the Executive Committee were under no obligations; but even in such cases as much attention has been given as it was possible to bestow.

We have been censured for not keeping a constant dribble of this matter through the pages of the REGISTER. All we have to say upon this point is, that it is always a matter of regret when circumstances require its introduction.

As all the readers of the REGISTER are aware, the suits that were pending against Dentists, in this city and Chicago, for infringement of the Goodyear patent in the use of vulcanizable rubber for Dental purposes, have been decided, in every point, adversely to the defendants, and all who have read Judge Leavitt's decision know upon what grounds. The Rubber Company, within the last twelve months, have very much modified their demands and requirements. The most objectionable features have been taken away altogether, viz: the keeping and rendering to the Company a detailed account of all work done, embracing the names and residence of patients. They have also remitted very much of their claims for settlement and license fee, making the latter a definite thing, instead of an extravagant royalty upon all work done.

The duties of the committee having this matter in charge for the last two years and a half have been very arduous, consuming a large amount of valuable time that might have been better employed in some other direction, as well as dividing and divert-

ing attention and effort that should have been employed for other purposes. In view of all these things, the Committee, after the most mature deliberations together, and with their able counsel, unanimously agreed to abandon further litigation, and to close the whole matter as early as possible, by the payment of costs and expenses, and the return of all notes in our possession to their respective makers. In order to meet the costs fully, a call for a payment of dues upon delinquent subscribers was necessary.

The question is frequently asked: Why was not one of these suits carried to the Supreme Court? We think that question already fully answered, but we will say further, that such an appeal would not prevent injunctions, issuing from the Circuit Courts, which would be equivalent to the collection of damages and the exaction of license fees, neither of which could be regained, whatever might be the final result.

Under all these circumstances, the Committee could not think for one moment of entering into a three or four additional years' of vexatious, time destroying litigation, merely to sustain that which, in some respects, is a most miserable humbug. We could not wish our worst enemy as sore a wound as our profession received by the introduction of rubber for artificial dentures.

T.



CALCIFICATION OF TOOTH PULP.

Recently Miss L——, aged twenty-one, of nervous, sanguine temperament and good general health, called for consultation in reference to her two superior central incisors. About four years before they had received a blow, which partially loosened them; they were quite sore and painful for a few weeks, and then recovered so far as to be used with a tolerable degree of comfort. The left tooth soon changed somewhat in color, and the presumption was that the pulps of both were devitalized. Two years and a half after the accident the teeth began to change position, the cutting edges being thrown forward against the upper lip, disfiguring the mouth very much.

In consequence of this, together with constant soreness, which had existed for several months, it was decided to remove them,

which being done nothing peculiar was observable, further than had been shown before extraction, the left tooth showing some change of color, but the right none from that of a healthy tooth.

Through inadvertence, the crown of the latter, a day or two after extraction, was broken into three or four pieces, breaking off at the neck of the tooth; the pulp was found to be completely calcified, entirely filling the pulp chamber; it did not break; the fragments of the crown parted from it, leaving it standing perfect, tightly imbedded in the canal of the root so firmly that it can not be drawn out with the fingers. This is the only case of the kind we have ever seen, and is a very marked illustration of a process upon which very little attention has been bestowed, and about which not much is known.

We were recently presented by Dr. Cushing, of Chicago, with a section of tooth, in which the calcification of the pulp was complete, but it was perfectly united to and continuous with the dentine all round the walls of the pulp chamber, which was obliterated thereby.

This is clearly a calcification of the pulp, and not a deposition merely of calcific matter upon the walls of the chamber, for the structure of the pulp is clearly seen in the tissue. We shall have sections of each mounted for microscopic examination, when we shall perhaps have something further to say in reference to them.

T.



THE RUBBER DAM.

Frequent inquiries are made in reference to the practicability and efficiency of the rubber dam in filling teeth. We can say, from a pretty thorough experience, that no operator can afford to do without it. There are many cases in which we should not know how to proceed without it. When the web is of the right thickness and properly adjusted, it is a perfect protection against the encroachment of the saliva, and secures to the operator a freedom of action in his manipulations that by no other method, as yet used, is attainable. The preparation and adjustment of the rubber upon the teeth is a very important matter; indeed, the result wholly depends upon this. If all the teeth are standing when the rubber is to be applied, it should be put over from three to

four teeth, or a sufficient number to make the way for the manipulation clear. The holes in the rubber should be from one-eighth to one-fourth of an inch apart, and each perfectly round and smooth cut; this is done with punches made for the purpose; of these there should be about three sizes, varying from one to two lines in diameter. There are also variously formed clamps for holding the rubber down in difficult cases. But a method we think better is the application of the silk ligature about the neck of the tooth, after the rubber is put on. Another important point is the drawing down the edge of the rubber beneath the margin of the gum of the teeth upon which the rubber is placed by the silk thread; this requires some experience and skill to secure the best result. Three things well observed, and any one will be highly pleased with the rubber dam: First—Have a good rubber cloth. Second—Prepare it properly, which consists in cutting it into squares of from four to eight inches, and putting the holes in the proper places and have them nicely cut. Third—Make a perfect adjustment of the rubber on the teeth as indicated above. Some fail in its use for want of a proper knowledge of its application; others fail from pure awkwardness. T.



MEETING OF THE CHICAGO MICROSCOPICAL CLUB— STRUCTURE OF THE BLOOD CORPUSCLES.

The Chicago Microscopical Club held an adjourned meeting last evening, at Rush Medical College, by invitation of Prof. J. W. Freer, M. D., to witness his exposition of the anatomy of the blood cells.

At the regular meeting of the Club held at the Academy of Sciences, January 26, W. W. Allport, D. D. S., was elected President, James Hankey, Vice President, Henry F. Munroe, Esq., Treasurer.

In stating the object of the meeting the President said that the existence of a nucleus in blood corpuscles has been long a question with histologists. Such distinguished men as Drs. Carpenter, Dalton, Peasley, Wharton, Jones, Kolliker, Bennett, Beale and McDonald, have denied their existence. Virchow is the only author who has strongly inclined to the opinion of their

existence, and he simply assumes the fact without clearly demonstrating it. Within the last twelve months Prof. Freer, of this city, has discovered in these corpuscles characters which have never before been mentioned by any author on human histology. In his recent visit to Europe he exhibited their structure to Prof. Hughes Bennett, of Edinburgh, who subsequently stated to a physician of this city that Prof. Freer had presented to him characters in the blood cells which he had never before witnessed. Other prominent European histologists made the same frank acknowledgment. If what Dr. Freer should exhibit shall prove to be the real nuclei of the blood cells, it will be sufficient to hand his name down in the history of medicine as the discoverer of what has long been sought, but never before found, and will entitle him to the gratitude of all lovers of science.

Prof. Freer, in presenting the subject of the evening, said that histologists acknowledge the existence of a nucleus in the reptilian blood cells. He had always believed the blood cells of warm blooded animals nucleated also. When viewed by transmitted light the structure is lost, and it is only when shown by reflected light as an opaque object—which he was able to do by the use of an illuminator invented and patented by Prof. H. L. Smith, of Geneva, N. Y.—that the anatomical structure of the cell is truly exhibited. This shows the cell as a bi-concave disc with the nucleus appearing as a prominence in the center. He did not make this as a positive assertion, but exhibited the object and left scientific men to draw their own inferences.

Dr. S. J. Jones stated that he saw Prof. Bennett subsequently to his meeting with Prof. Freer, and that Prof. Bennett expressed his high satisfaction with the presentation of the cells which Prof. Freer made.

The Club then proceeded to inspect the corpuscles, and, subsequently, other interesting preparations made by Dr. W. C. Hunt.

After a brief discussion of the points presented, and the adoption of a vote of thanks to Prof. Freer and Dr. Hunt for the gratification received, the Club adjourned.

MEETING OF DENTISTS—RESOLUTIONS OF RESPECT.

At an adjourned meeting, held at Dr. Wright's office, March 1, 1869, by the members of the Dental profession of the City of Columbus, called for the purpose of considering and passing some befitting resolutions expressive of our bereavement in the death of a professional brother, Dr. John Fowler, whose deportment in life as a citizen and professional brother has endeared him to all our hearts, on motion of Mr. Dunn, the following resolutions were unanimously adopted:

WHEREAS, In the infinite wisdom of Almighty God He has seen fit to take from us our beloved friend and brother, Dr. John Fowler.

WHEREAS, By his honesty of purpose, by his integrity of character and by the exercise of the most exalted, social, moral and professional qualities, he has left an example most worthy of our imitation; it is, therefore, by this meeting,

Resolved, That in this dispensation the Dental profession has sustained a loss which will be felt and deeply mourned by each and all its members.

Resolved, That we cordially tender to the family of the deceased our deepest sympathy and condolence, and our prayers that they may be sustained and comforted by Him who, for his own wise purpose, has called our brother hence.

Resolved, That a copy of these resolutions be sent for publication in the different Dental journals, and to each of the daily papers of our city, and that a copy of the same be transmitted to the family of our deceased brother.

H. TODD,
E. M. WRIGHT,
G. W. DUNN,
ALLEN F. EMMINGER,
D. MCBRIAR,

W. W. RILEY,
J. B. BEAUMAN,
R. G. WARNER,
A. SPENCER.

 OBITUARY.

DIED—Dr. B. F. Mills, on Friday, Dec. 11, 1868, at the house of his brother, Dr. G. A. Mills, Brooklyn, New York. Dr. Mills had been in feeble health for several months before his death, so that it was not wholly unexpected, either by himself or his friends. He was a graduate of the Ohio College of Dental Surgery, session of 1867 and 1868. He was a young man of superior professional attainments; one for whom high hopes were entertained in a professional field. The profession, as well as his immediate friends, have lost much by his early demise.

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Original Communications.



ARTIFICIAL DENTURES.

BY JOHN ALLEN, D. D. S.

Notwithstanding all that has been done to arrest and prevent the decay and loss of the human teeth in this country, the work of destruction still goes on, and millions of these important organs are lost by the people of the United States every year.

And yet it is generally conceded, that America has better Dentists, and more of them in proportion to population, than any other nation on the globe; and they are doing all in their power to stay the progress of this national calamity with which we are afflicted, and their timely aid has been crowned with unparalleled success. But still, the immense number of teeth that are annually lost causes a great demand for artificial dentures, which constitutes a large and important branch of Dental practice.

In the construction of these substitutes we should approximate as nearly as possible to the natural organs, keeping the mind's eye upon at least three important points to be attained, viz.: mastication, enunciation, and restoration

of the natural form and expression of the teeth, mouth, and face. But how to attain these ends under all the different circumstances we meet with in this department, is a problem not so easily solved as many suppose; for artificial Dentistry differs widely from any other branch of business pertaining to mechanism.

For example: The mechanic works by well known rules and laws, that have been long and well established; and he follows the same routine with his rule, compass and square, that thousands of others did who preceded him, and all producing the same practical results. The architect of the present day has the same well established principles to guide him now, that were employed by the ancients two thousand years ago.

The different styles of architecture known as Doric, Ionic, and Corinthian, were the favorite orders among the Greeks and Romans in their most palmy days, and these orders, with slight modifications, have been transmitted with mathematical precision to the present time.

Watchmaking is all done by fixed rules, which the workmen have only to follow in order to produce good time-pieces. Thousands of those little wheels are made just alike, and placed in cases in precisely the same relative position to each other, and all will serve exactly the purposes intended.

Numerous branches of mechanism are successfully pursued by men of moderate capacity, by simply adhering to certain fixed rules and principles in executing their work.

But in the construction of artificial dentures, there are no fixed rules to guide the Dentist, for he has no two cases alike; therefore a rule that would apply in one instance, would not hold good in another. If he should make a thousand sets of teeth, all just alike, upon one model, he would find but one set out of that whole number that could be worn, and that only by the one person from whose mouth the model was taken. Therefore instead of working by rule and

scribe, as the mechanic does, the skillful Dentist is ever devising ways and means to meet the various requirements of each particular case. Let us look for a moment at some of the manifold varieties of cases that occur in Dental practice.

For example: One set of teeth must be long, another short; another large, another small. One patient requires prominent teeth, another those that recede; some sets should be irregular, others symmetrical. Mrs. Brown requires dark teeth, Mrs. White, light ones, and Mrs. Jones a shade between.

Miss Prim was extremely well satisfied with herself, until she lost her teeth; and in having them replaced, she must have her own natural, lovely expression again, or she will be unhappy the rest of her life. And if the Dentist fails to restore her former appearance truthfully, he will become the object of her anathematism for years to come. In order to produce a pleasing and natural expression of the teeth, they should be in perfect harmony with the other features of the face. It is not always the most beautiful and symmetrical artificial teeth which appear best in the mouth. On the contrary, slight irregularities often appear the most natural.

The teeth give character to the physiognomy of persons; therefore as great a variety of expressions should be given them as there are individuals for whom they are intended. Here the skill of the artist is required in order to avoid an unnatural contrast, that would lead to detection; for you will recollect, it is the height of art to conceal art.

“The Dentist who is a true artisan, is not ambitious to have his work bear the impress of artificial teeth, but on the contrary, that they should possess that depth of tone, natural form, and truthful expression which characterize the natural organs.

Varying the *position* of the teeth will change the appearance of the mouth, just in proportion as they differ from the natural teeth. Hence, in many persons, their former

expression is entirely lost, and distortion has taken the place of symmetry.

A want of taste and skill in the construction and adaptation of artificial teeth, results in rude and graceless work, which contrasts widely with that of the true artisan, who carefully studies the tone, position, and expression of every tooth, and restores the harmony which nature had originally stamped upon the features of his patient.

A few slight touches of the brush in the hands of a skillful artist, will change the whole expression of his picture. So with the teeth; a slight inclination, outward or inward, or variation in length, will change the entire expression of the mouth."

Again, the deflection of the various muscles of the face, consequent upon the loss of the natural teeth, presents another class of physiognomical defects, which also comes within the range of Dental practice; and the time has come, when the Dentist is expected to raise the sunken portions of the face to their original contour by artificial means.

Whether this *could* be done without injury to the muscles thus raised, remained a problem to be solved by an American dentist. This question being settled for all coming time, that no injury results from wearing properly constructed dentures with attachments for this purpose, it has now become a practical and important feature in Dental prosthesis.

The sunken portions of the face can be raised by means of attachments or prominences made upon the denture of such form and size as to meet the requirements of the various cases that are presented to the practitioner.

In view of the facts here presented, and of what is required of the Dentist of the present day, we would urge the importance of a higher standard of qualifications in this department than seems to have been attained by a majority of those who are engaged in this branch of our profession.

These qualifications may be classified as follows:

1st. Surgical, embracing especially all operations per-

taining to the preparation of the mouth, and restoring the same to a healthy condition. 2d. Mechanism, or all that which pertains to the manual execution of the work, including impressions, models, dies, plates, mounting of the teeth, etc.; etc. 3d. Dental chemistry in general, and especially of the chemical properties of the various substances used for artificial dentures, and the mode of preparing and compounding the different minerals, fluxes, oxides, etc., that are employed in forming Dental substitutes. 4th. Metallurgy, including the different processes of working, alloying, and adapting the different metals used in this branch of our profession. 5th. Anatomy, especially of the bony framework, and muscles of the head and face, including the different locations, connections, and functions of all the parts which give form and expression to the features of the face. 6th. Artistic qualifications which combine all of the preceding requirements, and constitutes the acme and crowning point of the whole.

As the necessity for these qualifications are self-evident in the construction of artificial dentures, we will dwell only for a moment upon the last two named, as they seem to be practically the least understood by many in our profession.

The face, as you are aware, is formed of different bones and muscles, which give it shape and expression. When the teeth are lost, and a consequent absorption of the alveolar processes takes place, several of these muscles are liable to fall in or become sunken, in a greater or less degree, according to temperament. And, in order to restore them to their former position, the Dentist should be familiar with the form and position of every bone of the face, and know the origin and insertion of every muscle, and what ones to raise, and where to apply attachments to the denture; otherwise, he may produce distortion instead of restoration, by underlying other muscles than those intended to be raised. Here again, the artistic skill of the Dentist is brought into requisition. He should study the face of his patient as the artist

studies his picture, for he displays his talents not upon canvas, but upon the living features of the face; and of how much more importance is the living picture which reflects even the emotions of the heart, than the lifeless form upon canvas. In raising the different muscles of the face, the true artist will carefully avoid producing a stiff, restrained, or puffed appearance. He will place the prominences upon the dentures in their proper position, and make them of such form and size as to allow the muscles to rest, move or play upon them, with perfect ease; that they may again reflect those sensitive emotions which tell of the inner workings of the mind. Or, to use the language of Shakspeare,—

“Your face, my thane, is as a book where men may read strange matters.”

Another important consideration in the construction of artificial dentures is, that the materials of which they are formed, should be incorrodible or chemically pure.

The importance of a sweet and healthy mouth will be readily perceived, in view of the fact that the food which is taken into the system is moistened with the saliva, and if this becomes vitiated, either from an unhealthy condition of the salivary glands, or by contact with filthy dentures, it exerts a baneful influence on the stomach and alimentary canal, and impairs the general health in a greater or less degree.

This purity of materials we have in the continuous gum work, when properly made, as none of the materials used are corrodible in the slightest degree in the mouth. Again, all the essential points here referred to, can be attained by this mode of constructing artificial dentures. But too much reliance should not be placed upon the mode, for however perfect this may be in itself, artistic taste, skill and judgment are necessary to direct the operator in his manipulations.

Two artists (so called,) may employ the same method, use the same paints, brushes, canvas, etc., in painting a picture.

One will produce a perfect prototype of nature, with all the delicate shades and tints peculiar to her art; while the other, makes a mere daub that is worthless. The same difference exists among men in various other branches of art and science.

In conclusion, allow me again to urge upon our brethren the great importance of bringing into requisition a much higher order of talent in the artificial branch of our profession than has heretofore been employed by a large number of Dentists, whose ambition prompts them to do the cheapest, not the best work.

This low ambition always has a downward rather than an upward tendency, and will place its votaries where they are sure to be found, upon the lower platform of their profession; they are dead weights upon our fraternity, and do much to retard the progress of Dental science.

But, the aspirant for the highest pinnacle of fame, that he may do the greatest amount of good, moves onward and upward. If he meets with obstacles he surmounts them. If difficulties and discouragements stare him in the face, he overcomes them, keeping his mind's eye steadily fixed upon the goal where he has placed his mark; he believes that what ought to be done in his profession, must be done, and he is going to do it. His restless zeal will not permit him to wait for some predecessor to do the pioneering, he does it himself, let the cost be what it may, or the labor ever so much. Let us then seek for higher qualifications in the artificial branch of our profession, and we will then hear much less of mechanical Dentistry, and more of that which is artistic Dentistry.

VALEDICTORY ADDRESS TO THE GRADUATING CLASS, OHIO DENTAL COLLEGE, MARCH 3, 1869.

BY PROF. E. RIVES.

When those with whom we have been pleasantly and profitably associated for a length of time are about to depart from our midst, and when we reflect that the natural changes and vicissitudes of life make it improbable that we will all meet together again, it becomes a painful duty to say "Good-bye."

But when those who leave us are of the same household of faith, working in the same cause, having the same aspirations to relieve human suffering, and have, by diligent study, made themselves competent to commence their professional journey through life, the natural sorrow at parting is softened, because those who have identity of interests and aspirations can hardly be said to be separated, even though oceans intervene. In spirit we will ever be united.

And then when we look on your familiar faces, radiant with the glow of success, full of bright anticipations of the future, expressive of eagerness to engage in the great battle of life, it would be cruel to dim one bright thought by uttering words of sorrow at parting.

No! Our good-bye must be cheery, for all your high hopes, joyous anticipations and firm resolves find a responsive echo in our hearts, and while we deeply regret that our pleasant association has come to an end, (at least in our former relation) yet we rejoice that the noble army of engineers on the road to truth has been increased by so worthy an addition, and we bid you go forth in the name of truth and science, not in sorrow, but with joyous expectations of your success.

On such occasions, I believe, it is customary to accompany the presentation of diplomas with a large quantity of advice, both of a professional and moral nature. This, doubtless, is a good old custom and sanctioned by years of habit, and I

dare not condemn it, but you will pardon me if I decline undertaking the moral advice which belongs more properly to your spiritual adviser. I feel, too, a hesitancy in assuming the character of a *mentor* to graduates in the Ohio College of Dental Surgery.

It occurs to me that the diplomas which you hold (or are about to receive) are sufficient guarantee that you have received and accepted the advice of the several professors in this institution.

We believe that you are in the right road and will be able to find your way, if you only hold in remembrance the cardinal maxim taught within these walls, namely: "Be students always," and never forget that to stand still in life is impossible—you *must* advance or you *must* lose ground. This brings me to the contemplation of a point upon which I hope you will indulge me in dwelling for a few minutes, because it particularly interests you. It relates to *work*.

We hear, occasionally, of men killing themselves by work. The instances must be exceedingly rare. The healthiest men I know of are the hardest workers, and I do not remember a single instance in my personal experience where work has *injured*, much less killed any one. You will generally find that the reported cases of death from over-work, when investigated, have resulted from too little work, injudicious work, or some more flagrant violation of nature's laws. Walk Fourth street on a bright afternoon and see the miserable specimens of manhood dying from *idleness* and consequent inanity, lounging around the corners until they are pushed out of the way by policemen. These men, gay and careless as they seem, are dying because they do not work. See, on the same street, the thrifty working man (either of brain or body) passing these idlers, with bright eye and elastic step, full of good resolves and high motives, and tell me which promises the longest life. O no! Work never injures. It is idleness which is the canker worm that eats out men's souls. But then a man may work injudi-

ciously, and yet work very hard. I mean by this, that he may confine himself too much to one idea, and thereby wear out those faculties of mind or body engaged in the development of that idea. Confining ones mind continuously to one idea dwarfs the intelligence (as confining one set of muscles only to the accomplishment of one object, atrophies those muscles in disuse.)

We have been mercifully endowed by the Almighty with wonderful faculties, both mental and physical, not to keep as a miser does his gold, but to improve and to increase in power. This you can not accomplish by the exercise of one or a few of those faculties, to the exclusion of others. You must apply them all, physical and mental, by turns and together, in various combinations, if you expect to attain to any degree of human perfection.

Success in life depends largely on the degree of perfection to which our mental and physical natures have arrived. This degree of perfection depends upon the exercise of every faculty with which we are endowed. In a word, keep none of your faculties of mind or body in disuse. You will find time and occasion to use them all, either in connection with or having some relation to your legitimate business. An harmonious development of all your faculties will assist, rather than retard you in the grand object of your life.

Temperance should be observed in the use of our faculties, as it should be in the use of the cup. You may be intemperate in the use of either. True work then, is the judicious and temperate use of every faculty we possess, by turns or in combination.

I will detain you on another point, and will state it as follows :

No one can justify himself, however high his position and great his fame, in condemning, without patient investigation, any opinion or proposition expressed by an earnest, honest man, even though at first it may seem absurd. I speak of this, because if we look back into the history of science we

find numerous instances where the grandest discoveries were met with scoffs and jeers. One instance in point : The great Copernicus first announced the startling fact that our planetary system revolved around the sun not only, but that all other systems revolved around their suns, and that each particular orb revolved on its own axis. These great truths have given rise to the grandest and most important discoveries, and yet this master mind, able to grasp so stupendous an idea, was adjudged insane by many of his most illustrious cotemporaries, and was in fear and danger of persecution.

Again : With what difficulty, and after how many years of patient trial, meeting with scoffs and ridicule, did Columbus succeed in obtaining means to verify his "crazy" idea of another continent. Yet here we are firmly established on the "crazy idea," in the shape of the continent of North America, to which the world is rushing in "crazy" speed.

This is only to illustrate the care with which we should condemn any scientific proposition. While on the one hand we should be slow to condemn, on the other we should be slow to accept. Wait and investigate. Base your rejection or acceptance on well known facts. Never have a pet idea. All true ideas should be your pets. In a word, endeavor to weigh all propositions without bias on either side.

The examination through which you have just successfully passed, and which doubtless caused you much anxious solicitude, you will be astonished to hear, is not the last ordeal of the kind—through which you must pass. Do not be alarmed ! This Faculty has awarded you your diplomas. I mean that every day of your life you will be subjected to the silent, but, in the main, just examination of a discriminating public. And more, every night will be repeated the most unrelenting of all examinations, namely : that of your own consciences. These you can never expect to escape—go where you will—do what you may. You must ever keep yourself in a state of preparation for examinations. They increase in difficulty as we grow older, and we must ever be "up and doing," if we hope to succeed.

We hope and believe that each of you will be as successful in these examinations as in the ones through which you have just passed.

Upon reflection, I doubt very much whether I should fly in the face of custom, and say nothing to you of a "moral" nature. To save my own conscience, I will simply say what your kind, good parents no doubt told you when little boys, and in a far more impressive and emphatic way, "Be good and true." These attributes should attach not only to little boys, but to grown up men, and even to Dental graduates.

THE HEALTH OF THE DENTIST—MEANS OF PRESERVING.

BY H. M'CULLUM, D. D. S.

The following article was called into existence in behalf of the Dental profession exclusively, and the writer engaged in the labors incident to its production with this distinct object in view; but, as the work progressed, the nature of the subject and the irresistible logic of circumstances led to a departure from the original design, so far as any attempt to present the general laws of hygiene, on which the physical welfare of the entire human family is dependent. Still, as the munificent liberality of some of the prominent members of the profession led to its production, and zeal for the honor and advancement of the profession inspired and sustained the writer during the period of its conception and gestation, or incubation, it is deemed but reasonable that it should first be submitted to the consideration and acceptance of the class or profession in whose behalf and through whose influence it was brought into existence, and if the effort meet the approbation of those for whom it was more especially prepared, and if such a step be thought advisable, it may ultimately be presented to the public at large through the medium of the profession.

At first sight it might appear unnecessary to discuss the general principles on which the health of mankind is founded, in order to meet expectations; but, on second thought, I arrive at the conclusion that as Dentists are but mortal men like every body else, and subject to the same physical and pathological laws, under the control of the same vital forces, it would be the proper course to endeavor to make a special application of the general laws of hygiene, to the special conditions in which Dental practitioners are generally found.

The thought might very naturally present itself here, that no one is competent to practice as a Dentist until he possesses a sufficient knowledge of the conditions of health to enable him to successfully guard his own interests in this direction, and if any one should presumptuously thrust himself into such a position without this primary, this indispensable qualification, he could not well sicken and die much too soon for his own good and the benefit of all concerned.

This view of the case would be altogether just and appropriate, but for the existence of one indisputable, all pervading and most humiliating fact, viz: that all human efforts and human attainments are imperfect and incomplete. None are so correct but they exhibit some deviation, none so full and perfect but there is something wanting; hence, it becomes us to cast the mantle of charity over the frailties and errors of our fellow-men, and endeavor to supply each other's lack of knowledge as we have ability and opportunity.

We seldom acquire knowledge, practical, useful knowledge, except in the direction and within the scope of our efforts. It is too frequently the case that the single aim and hope of the Dental student is not so much to gain an understanding of the physical organism and vital forces, such as shall enable him to establish and maintain a harmonious co-operation throughout the entire system, but rather that they may acquire a sufficient knowledge of special anatomy and handi-

craft skill, and, perhaps, social polish as shall command the approval of his compeers and reach the pockets of his patrons, and hence, notwithstanding the text-books that propose to set forth the laws of physical organization and vital action, in all their wonderful and charmingly beautiful mysteries, are placed within his reach, and every incentive to urge him to improve the auspicious moments, is brought to bear (except, indeed, the hope of immediate pecuniary gain) to induce him to improve the passing opportunity in laying up a fund of general knowledge that shall illuminate his pathway through all future existence; yet, notwithstanding all this, numbers of young men pass through a preparatory course of training, and come out at the end experts in repairing decayed teeth and supplying substitutes for such as are lost; but beyond this the treasures of wisdom and knowledge have been opened to them comparatively in vain.

And such is human nature, or human frailty, we can only see one thing distinctly at a time. If we attempt to see more our sense of perception becomes confused and chaotic; our effort proves a failure. Thus, not only Dentists, but all departments of society are left to assume the grave and responsible duties of life with a most deplorable deficiency in the direction of a proper knowledge of the conditions on which life and health are secured to mankind.

Oppressed with an overwhelming sense of my own inadequacy, I address myself to the task, only promising to do the best I can, under the circumstances, to place this matter in as clear a light as I shall find practicable.

In more respects than one man may be regarded as a triple individuality, holding three separate and distinct relations; first, to himself as an individual; second, to his fellow-men as a member of society; third, to his Creator as a subordinate dependent creature. His existence throughout its whole course is dependent on these vital conditions or functions, an interruption or suspension of the activity of either of which must instantly prove fatal. The harmonious

co-operation of all these together comprehends the perfection of physical health; an excess or deficiency in any one of these functions is disease or derangement of health; interruption or suspension is death. I regard it quite unnecessary, other than to keep up the connection, to state that these vital functions are nutrition, respiration and circulation; that each has its separate and distinct system of organs and field of operations.

Next in order may be named the osseous, muscular and nervous systems, each with their own peculiar organization, and exclusive and appropriate functions.

Then the spiritual, sentient and physical, or material elements of his being; his moral, social and individual relations, complex and complicated beyond computation or comprehension.

Before we are prepared to engage in any enterprise, with a reasonable prospect of success, we should first understand the object at which we aim, fully and clearly; next, that we have at our command the means with which to conduct the operation; and, also, that we have confidence in our own ability to prosecute the enterprise to full success. It does not comport with the plan of this paper to exhibit in all their diversified details the complex conditions that underlie the health of mankind in all the various circumstances and occupations of life. We only propose to attempt to trace out some of the general laws of nature, that affect the sanitary condition of our race, and perhaps, endeavor to make a special application of these laws to the condition of such as are engaged in the practice of Dentistry. A large part of the details of the knowledge of hygienic laws must be gathered by the wayside of life. Like all other useful knowledge, it is too cumbrous, or too ethereal, or too something, to carry a supply from the outset of life, even if we had the necessary outfit at starting, and, besides, it sometimes becomes stale if kept too long.

The outline of anatomy and physiology should be taught

early in life—as early as the mind is capable of grasping such subjects ; they should be made a part of common school education, in preference to some of the subjects that are now taught at an untold expense of time and labor, in the morning of life, when every moment spent in idleness or misdirected effort, tends to blight the whole future course of existence.

Another error that men too frequently fall into is, that when they grow up to be five and a half or six feet high (instead of arriving at years of discretion) divide their time and attention between the pursuit of some sensual gratification, and an effort to secure the means wherewith to gratify their selfish or sensual desires, or in the pursuit of wealth under the sole impulse of covetous desires, which is another manifestation of selfishness of a low grade.

“But,” some one may inquire, “what has all this to do with the health of the members of the Dental profession?” Perhaps nothing as Dentists exclusively or separately considered, but Dentists are only men, and as such are liable to all the infirmities and limitations that pertain to humanity, and no one can reasonably hope to succeed in the pursuit of health or any other object of value or interest, who ignores his identification with our common humanity, and in the further prosecution of this subject I shall frequently refer to the landmarks of human nature, as I understand them, for guidance and assurance that we are in the right way.

One of the first duties that devolves on us as Dentists is to gain and maintain a full and correct understanding of our own peculiarities, our mental and physical capabilities, our sanitary condition, our hereditary bias towards health or disease, our power of reaction or constitutional elasticity. This is necessary, in order to enable us to put forth the necessary efforts to secure and preserve our own health. If we are prone to any marked deviation from a condition of full and correct health, it is of the first importance that we understand the difficulty from the beginning. If we find our-

selves laboring under any serious difficulty or derangement of health, it is altogether imprudent and impolitic to engage in such a vocation as the practice of Dentistry. If we fall a victim to disease while in the practice, our first step should be to abandon our professional labors, or, at least, suspend them until our health is restored. It is a duty that we owe to ourselves that we never suffer our health to be lost for want of due care on our part—that we always keep our line of communication with a healthy basis, open and unobstructed. It is a duty we owe to our patrons that we at all times hold ourselves prepared to afford them the services of a sound and healthy mind and body. No one with diseased lungs, or suffering from those prolonged chronic or nervous affections that frequently prove to be so tedious and troublesome, is justified in assuming the duties of a Dentist until his own health is restored. Besides the liability to aggravate his own case, and thereby lessen the prospects of recovery, there is an appearance of immodesty in proffering to assume the care of the health of others, while his own is deranged or impaired. No intelligent patient, no individual of good sense and correct taste would be pleased to be brought in contact with a subject of tedious and painful disease in that way; no one of correct judgment would choose to submit the care of their teeth or any of the appendages or appurtenances of their oral cavity to the care of a sick man. Besides, the tendency that most diseases have to emigrate from one individual to another, when brought in contact or close proximity, it would be altogether unreasonable to expect to find an invalid in a mental, nervous or muscular condition, such as would properly qualify him for the performance of the grave and responsible duties of a Dentist. But this is not quite to the purpose, which I understand to be to so advise those already in the practice of Dentistry as to enable them to secure and maintain such a state of health as shall qualify them for the successful performance of the duties of their important and responsible

vocation, rather than to select candidates for the profession according to sanitary condition, &c.

The first condition of health that claims attention is, that the nutritive system be regularly supplied with a sufficient amount of appropriate food. This may be regarded as the most simple and most universally prevalent want among all organized beings ; yet so positive and imperative are its requirements that existence can be sustained (or rather sustain itself) but for a very brief time without it. In obedience, therefore, to this requisition, it is necessary that those who desire good health take due care to partake regularly and temperately of a portion of food, selected with proper regard to quality, quantity and adaptation to age, occupation, climate and constitutional peculiarity of the recipient ; that the food be good in its kind, sound meat, fully matured and so prepared as not to change its chemical combinations. Remember that of the food we eat is constructed this curious fabric, which is so fearfully and wonderfully made, and that no architectural skill can make a safe and durable building of soft bricks and rotten timber. Not only is the general system weakened by improper diet, but the nutritive system rapidly becomes weakened or diseased. A large proportion of all the diseases prevalent in our day and our country arise and assail us from this quarter.

The next point that claims our attention is respiration. This is one of the vital functions, constantly and unremittingly active—not quite so liable to be misused as the appetite for food, still the doctrine of total depravity is fully sustained by the condition in which the lungs of large numbers of our fellow-men are formed. The immediate act or process of respiration is but partially under the control of the will, and is conducted regularly and correctly without the active control or attention of the will, as during sleep, or while the attention is fully occupied with other matters. The material demanded for respiration is the atmosphere ; though every where abundant and generally pure, it readily com-

bines with deleterious and destructive gases, whenever and wherever brought in contact with them. When shut off from communication with the great atmospheric reservoir, it soon becomes stale and unfit for respiration. An admixture of the gases, resulting from combustion or the chemical decomposition of animal or vegetable substances, depreciates the quality or renders it unfit for the purposes of respiration, in proportion to the amount and character of the poisonous exhalation with which it is combined.

The third fundamental organic or animal function is circulation. This is carried on entirely independent of the control of the will, and, consequently, can only be reached by intermediate or secondary means. Its movements may be accelerated by the activity of the mental emotions, or by the introduction of nervous stimulants into the circulation by way of the stomach; by vigorous muscular exercise; in a word, all the activities of life stimulate the heart's action, which is but another word for increased activity of the circulation. It does not fall within the range of an article like this to describe minutely the structure or functions of different organs composing the human system; neither would it be necessary to refer to them in this general way, except for the purpose of laying a foundation for the remarks that we propose to make in reference to the origin of the derangement that arises, first in the functions of these organs, and ultimately in change of structure of the organs themselves, which is usually understood or designated by the term "disease."

In the prosecution of every important enterprise it is of the first importance that we frequently and intelligently examine the situation; that we understand distinctly what we propose to do, the means with which we have to operate, and the motives which prompt us to the undertaking, and not only at the outset, but during the prosecution, it is important that we maintain an intelligent oversight over every step till the labor is accomplished, and then sum up the re

sult, together with expense of risk, toil, &c., incurred. As men, as organized animals, it is necessary that we take our food regularly, that it be good in its kind, adapted to our age, occupation, locality, &c. As Dentists, we are more frequently brought in contact with our patrons and friends in a way to interfere with our regular hours of diet, than persons in almost any other occupation. Now, for persons who, like some of the lower animals, do nothing else but eat, it would not make so much difference.

But the active Dentist has occupation sufficient to fill the hands of the most vigorous mental and executive capabilities. If the nervous energy be divided between manual or mental activity and digestive function, there is, of necessity, embarrassment, confusion and imperfect performance of both offices and rapid exhaustion of the vital energy. There is doubtless economical propriety in not only allowing sufficient time to chew and swallow our food in a thorough, deliberate and decorous manner, but in giving an hour after each meal to digestion, so that function shall not be impaired or weakened by a diversion of the nervous energy in a different direction. Though the digestion is not under the direct control of the will, it is one of those departments of vital economy that may be thwarted or impeded in its operation by willing the nerve force in an opposite direction. The Dentist does about the worst possible thing in this respect, who takes his food at odd times, as opportunity may serve or caprice may dictate; better omit dinner altogether than eat at twelve, one, two or three o'clock, just as he may chance to find leisure, and then return in eager haste to his task. There is no inconvenience in subsisting on two meals per day, other than that arising from a nonconformity with popular custom, and even one properly prepared and appropriated at regular intervals or periods, would be safer, better, and, in all respects, preferable to three or four taken at loose ends or random chances. It requires no elaborate argument to substantiate these facts in the mind of an intelligent ob-

server, and to such only is this paper addressed. As it respects the respiration of Dentists, there is some special danger to be guarded against from this quarter. In the first place, the operating-room can hardly be sufficiently ventilated, even if the pent up atmosphere of the plethoric and smoky cities could furnish the needed article of the required purity on the open street, which, to say the least, is somewhat doubtful; and unfortunately for the health of the profession, here is where the larger proportion of Dental practice may be found. In addition to this it requires constant and unremitting care to avoid inhaling the breath of our patients. Of these, some may have lungs as healthy and teeth as clean, and breath as sweet as our own, (which, at best, is worthless for the purposes of respiration, immediately after it has been expired) and hence on down through every grade of nastiness, till we find some that only lacks volume of an ability and tendency to breed a pestilence. In disposing of cases of this kind we have nothing better to suggest at present, than that we hold our nose with one hand while we operate with the other, unless it be to dismiss the subject, with instructions to spend a minute and a half or two minutes every day, for a fortnight, in removing the source of the putrescent aroma that lingers around the casket of damaged pearls. Sometimes a new fangled spittoon may send up a smell, differing somewhat in character from that which might be supposed to preside in the breezes of "Araby the blast," by one who had never inhaled them, but no Dentist of good taste would long tolerate a nuisance in this quarter. The odors of the laboratory may not be at all times entirely under control, but the operating-room may, and at all times should be, kept free from all manner of exhalations, except such as may arise from the ointment of the apothecary.

The freedom and force of the circulation is intimately connected with and dependent on the functions of nutrition and respiration. It is altogether independent of the direct control of the will, though its action is accelerated during the

performance of actions that are subject to its control, or during any mental excitement the arterial action is accelerated to a corresponding degree. Where there is a discord or a departure from harmonious co-operation or corresponding activity between the arterial and muscular or mental system there is a derangement that approximates disease. Medical men make the harmony between the activity of the circulation and that of the voluntary organs a test of the standard of health, and perhaps there is no single indication that may be more safely relied on. There are one or two outside influences that might be noticed in this connection. First, the temperature of the circulation must be kept at about 98°, for a very few degrees above this is termed fever heat, and is accompanied by a rapid dispersion of the material elements of the system and diminution of the vital force. In order to enable the vital organs to perform their functions regularly, it is important that the temperature be maintained at a regular standard. To meet this requirement there is an amount of warmth produced in the system proportionate to the amount of food consumed and of force expended. If an excess of heat is produced, it is thrown off by the evaporation of perspiration from the surface, and thus a regular and healthy temperature is constantly maintained. A careful observance of this law becomes especially important to the Dentist. Being confined chiefly in our occupations, he has not that constitutional vigor and tone to rely on that of right pertains to the plowman and wood-chopper, being a large part of the time deprived of the direct rays of the sun (which is doubtless the chief, if not the exclusive, source of vital energy.) Those who devote themselves to the practice of Dentistry place themselves at a great disadvantage in point of health, as compared with many other occupations, and this, together with the fact that a far less than average amount of muscular energy is expended in this than most other avocations, renders a large share of hygienic knowledge an indispensable element in a complete Dental education.

There is another external influence that may interfere with the circulation, viz: pressure. It is necessary that the arterial current be maintained without interruption or obstruction to the uttermost part and to every part of the system. If we wear our clothing too tight, and especially on our feet, we are likely to seriously injure our health, more especially as we as Dentists, exercise our feet less than in most other occupations, and idleness or disuse in any organ tends to weaken it by diverting the nervous stimulus and nutritive current of the circulation to more active members. To guard against danger from this quarter, I would suggest that every Dentist take an hour's walk once or twice each day, with little regard to the state of the weather, with strict care to guard the feet against undue pressure, and to keep them always clean, remembering that disease once established in the system, though it first find a lodgment in the utmost extremities, invariably manifests a tendency to advance toward the citadel of life.

Besides these three fundamental elements in our material organization, there is another that should not be overlooked, viz: the nervous system, the office of which is to unite the different parts of the system in one harmonious whole, and to bring us also in connection with the other portions of the universe. This, like the arterial system, is placed above and beyond the direct control of the will. Complex and incomprehensible as the more material elements of the organism may be, this is more complex, comprehensive and incomprehensible still, notwithstanding it is the medium of communication between all other parts of the system; though it guards the integrity and safety of the entire organism with the most untiring and vigilant assiduity; directs every movement and receives the impress of every emotion; is the exclusive instrument of our internal existence and our connection with the external world. Still this, like all other departments of humanity, is liable to fall a victim to, or rather become the primary seat of disease. Its functions may be

depraved and perverted, or interrupted, and its structure deranged or disorganized, and whether there be a solar plexus, as some theologic anatomists propose to teach, that serves as a local habitation to the immortal spirit, there can be no question among Dentists as to the fact that there is such an affection as neuralgia, &c., or among candid, thoughtful observers, that the moral sentiments, the social affections, and the individual instincts are liable to become depraved and perverted, and this abnormal condition is not likely to long remain confined to the department where it originated, but one after another of the members are involved till the disease becomes general and at length universal. Whether the derangement originate in the osseous, muscular, alimentary or nervous systems, in the cellular, membranous or cuticular tissues, if the cause that originally wrought the mischief remains active, this sentient element transmits the diseased action or influence throughout the entire system, till the whole organism from the crown to the sole is involved.

It might be supposed that any one writing on this topic would urge the claims of some one of the numerous systems of medication that are set forth in the various medical schools of the present day, or some of the transcendently superlative nostrums that so confidently promise long life to the dying and blooming health to the hopelessly diseased, and sustain the verity of their declaration by such an ominous cloud of witnesses. This I am not prepared to do. The whole need not a physician, and the sick are scarcely competent to assume the responsibility of guiding their own steps back to the paths of life and health. It is generally easier to follow a plain, straight track, while fairly in it, than to find the way back to it after wandering off into impassable swamps and impenetrable thickets. The medical schools are chiefly based on the plan of letting the people get sick in their own way, and then curing them the best way we can.

[To be Continued.]

Proceedings of Societies.

THE TWENTY-FIFTH ANNUAL MEETING OF THE MISSISSIPPI VALLEY DENTAL ASSOCIATION.

WEDNESDAY, MARCH 3RD, 1869.

Met in the Lecture-room of the Ohio Dental College, at
10 A. M.

President Cushing in the Chair.

Members present: Drs. A. Berry, J. Taft, H. McCollum,
G. W. Keely, Jas. Taylor, W. H. Shadoan, J. A. McClelland,
J. Cheesbrough, H. A. Beamer, A. A. Blount, G. H.
Cushing, W. H. Sedgwick, R. A. Mollyneaux, J. G. Cameron,
R. L. Evans, W. H. Morgan, W. F. Morrill, W. G. Redman,
A. M. Moore, J. A. Watling, Sam'l Wardle, Will Taft, H. R.
Smith, H. A. Smith.

Minutes of last session were read and approved.

Intermission was allowed for members to settle their
annual dues.

Dr. Taylor offered the following resolution :

Resolved, That the Treasurer be authorized to pay Dr. J.
Taft thirty-five dollars for reporting the discussions.

Drs. Keely, Moore and Evans, were appointed Committee
on Membership, to fill vacancies occurring from absence of
members of the regular committee.

The Executive Committee reported the following order
of business :

- I. Report of Officers.
- II. Election of Officers, 3 P. M., second day.
- III. Miscellaneous business.
- IV. Essays or papers to be read on the opening of discussion.

SUBJECTS FOR DISCUSSION.

1. Use of the file in Operative Dentistry.
2. Treatment and preservation of the deciduous teeth.
3. Mechanical Dentistry.
4. Operative Dentistry.
5. Salivary Calculus. Exhibition of instruments and appliances for one hour, commencing at 1½ P. M., 2d day.

W. H. MORGAN,	} Committee.
H. A. SMITH,	
A. A. BLOUNT,	

The Committee on Membership presented the names of Dr. E. W. Ruth, of Maysville, Ky., and W. R. Johnson, Columbus, Tenn, both were elected.

The Committee to Revise Constitution and By-Laws were discharged, and a new one consisting of Drs. J. Taft, and G. W. Keely, appointed.

The Committee to prepare a popular essay for gratuitous distribution was discharged.

On motion of Dr. H. A. Smith, the sum of fifty dollars (\$50) was offered for a popular essay.

A Committee of five, consisting of Drs. H. A. Smith, Jas. Taylor, W. H. Morgan, A. M. Moore, and J. Taft, were appointed to examine into the merits of the essays that may be presented for the above prize.

The Treasurer made the following report upon the condition of the finances of the Association.

Dr.

Received for Dues and new Members	\$ 48 00
" from former Treasurer.....	100 00
" Balance due	139 00

Cr.

Paid Janitor	\$ 15 00
" Dr. G. W. Field.....	5 95
" Dr. J. Taft, Reporting.....	35 00
" for Printing.....	5 00
" Appropriation to College	50 00
	<hr/>
	\$176 40

The Committee, to whom was referred the report of Treasurer, find the same correct.

H. R. SMITH,
R. A. MOLLYNEAUX, } *Committee.*

Dr. J. G. Cameron, of the Committee upon revision of the membership roll, reported the list of delinquents, and upon motion of Dr. A. Berry, the Treasurer was instructed to notify delinquents of the amount of dues standing against them.

The Membership Committee presented the name of Dr. E. C. Sloan, of Ironton, Ohio, as a member of the Association, who was elected.

On motion of Dr. Jas. Taylor, It was decided to attend the funeral of Dr. N. Allen, in a body, this afternoon at 2 o'clock.

Adjourned till 2 o'clock, P. M.

AFTERNOON SESSION.

President and Secretary absent.

Dr. Jas. Taylor was appointed President, and Dr. H. A. Smith, Secretary, *pro tem.*

First subject for discussion, "The use of the file in Operative Dentistry," was taken up and disposed of after considerable discussion.

The second subject, "Management and Preservation of deciduous teeth," was taken up, and after some discussion was laid over till second day.

Adjourned till second day, 10 A. M.

MORNING SESSION, SECOND DAY.

Association called to order at the hour appointed.

President Cushing presided.

Minutes read and approved.

No business being presented for consideration, the discussion of the second subject was resumed.

The Committee upon Ethics reported the following :

Your committee, to whom was referred the charges preferred at the last annual meeting against Drs. J. Cheesbrough, and J. B. Beauman, for unprofessional conduct, would respectfully report, That in the case of Dr. Cheesbrough, we find him guilty upon his own admission; but in view of the commendable spirit exhibited before the committee, and the fact that he was surrounded at the time by circumstances peculiarly perplexing, and that he pledges himself to a different course in future, we recommend that no further action be had in his case, believing him still worthy of the fraternal regard of his professional brethren.

Dr. J. B. Beauman did not appear before your committee, although duly notified to do so, thus treating this association with contumely, and there being abundant evidence of unprofessional conduct on his part, we recommend that his name be stricken from the roll of membership.

G. W. KEELY,	} Committee.
W. H. MORGAN,	
J. TAFT,	

Which was received and adopted.

Adjourned to meet at 1½ P. M.

AFTERNOON SESSION, 1½ P. M.

Association called to order.

Minutes read and approved.

On motion it was agreed to go into election of Officers, which resulted in the selection of the following :

President—Dr. A. M. Moore, Lafayette, Ind.

Vice-President—Dr. J. P. Ulrey, Rising Sun, Ind.

Recording Secretary—Will Taft, Cincinnati.

Corresponding Secretary—N. W. Williams, Xenia, O.

Treasurer—J. G. Cameron, Cincinnati.

Executive Committee—A. Berry, R. L. Evans, W. H. Morrill.

The President was conducted to the Chair, and made a brief address. Dr. Jno. Allen was now invited to read

before the Association a paper on Artificial Dentures. In compliance with the above the Dr. read a very instructive and interesting paper, showing some beautiful specimens of continuous gum work by way of illustration.

On motion, the society tendered a vote of thanks, and requested a copy of his paper for publication.

Dr. McClelland then addressed the Association, giving some practical illustrations of his method of manipulating Rose Pearl. After which a vote of thanks to Dr. McClelland, proposed by Dr. Sedgwick was passed.

Moved to adjourn till 7 o'clock.

EVENING SESSION, 7 P. M.

President Moore in the Chair.

Dr. G. H. Cushing, Secretary *pro tem*.

Operative Dentistry being the topic for discussion, was duly considered and participated in by most of the members present.

The following resolution was offered by Dr. J. A. McClelland :

WHEREAS, It is too much the custom of Dentists to examine teeth, and give advice free of charge, thus not only cheapening our professional services as such, but encouraging "shopping about" of persons who have no idea of employing our services; but having confidence in our judgment, desire our opinion, more to know whether the Dentist of their selection renders them full service or not. And, Whereas, the faithful and conscientious Dentist frequently can not make a thorough examination and give such advice as his cultivated judgment dictates, without the employment of much valuable time.

Resolved, That this Association recommend its members to charge a reasonable fee for examinations and advice, where no operation is performed. Carried.

The following resolution was offered by Dr. McCullum :

That the Mississippi Valley Dental Association appropriate the sum of one hundred and fifty dollars to the Ohio

Dental College Association, to be applied to repairing the College building. Carried.

Bill of J. Taft, for issuing notices of meeting. Allowed, and ordered to be paid.

Appropriation to Janitor ordered of fifteen dollars.

The Chair announced the following committee for the ensuing year.

Dental Ethics—G. W. Keely, W. H. Morgan, H. A. Smith.

Appliances—N. W. Williams, W. H. Shadoan, A. A. Blount.

Membership—A. Berry, F. H. Rehwinkel, Sam'l Wardle.

The following delegates to American Dental Association were duly appointed :

Drs. G. W. Keely, Wm. H. Sedgwick, W. F. Morrill, R. A. Mollyneaux, H. McCullum, A. W. Moore, J. P. Ulrey, H. A. Smith, J. A. McClelland, E. C. Sloan.

Adjourned to first Wednesday in March, 1870.

Selections.

THE TREATMENT OF NEURALGIA BY ELECTRIZATION.—By A. D. ROCKWELL, M. D., AND G. M. BEARD, M. D., *Lecturer in the Medical Department of the University of New York.*—Under the general term neuralgia, which, fifty years ago, was but little known, either to the profession or the laity, is now included one of the most frequent and distressing symptoms of the chronic diseases of our time.

The term neuralgia (neuron and algas—pain of the nerve) gives no clue whatever to the nature of the affection.

Strictly speaking, all pain, in any disease, is nerve pain, and therefore the term neuralgia might be applied to every phase of disease, acute or chronic, that is attended with unpleasant sensations. This term, however, as ordinarily employed, designates an affection of the nervous system, which is attended with pain in the course of some of the principal sensory nerves.

The pain of most acute and many chronic diseases, is diffused through the various tissues, either locally as in arthritis, abscess or other swelling, or generally as in constitutional rheumatism and other febrile affections.

When, in any disease, the pain follows the course of any particular or prominent nerve-branch, it receives the name neuralgia. The pains of the affection are usually quite sudden in their onset, and are of a lacerating, stabbing, darting, or burning character. They are more or less intermittent, and are not ordinarily accompanied by any constitutional febrile disturbance.

Neuralgia has usually been classified according to the locality of the pain, and corresponding special names are given to it. Thus we have facial, brachial, intercostal, and abdominal neuralgia; gastralgia, sciatica, etc. This method of classification, though convenient, and to a certain extent indispensable, is yet, to the last degree, unphilosophical and unscientific. It grew up in the times of professional ignorance, and therefore gives no idea of the special nature

of the affection, and can be no guide in the prognosis or therapeutics. The method of classification of the neuralgias that we adopt is *based on the local or general condition in which they take their origin.*

It seems to us at once logical, scientific, and readily suggestive, both of the prognosis and the therapeutics. All conceivable forms and phases of this affection may be included under one or the other of these four grand divisions:

1st. *Constitutional Neuralgias.*—Those which arise from constitutional conditions: anæmia, neurasthenia (nervous exhaustion), poisoning by syphilis, mercury, rheumatism, gout.

2d. *Central Neuralgias.*—Those which arise from disease of the central nervous system: inflammation, congestion, anæmia, exhaustion of the brain and spinal cord, also meningitis, tumors, pressure of foreign substances, etc.

3d. *Peripheric Neuralgias.*—Those which arise from local diseases of, injury to, or pressure on the nerve; neuritis, neuroma, aneurisms, wounds, bruises, etc.

4th. *Reflex Neuralgias.*—Those which arise from reflex action. This class embraces a large number of neuralgias that attack all portions of the body. Complicated cases occur that may properly belong to two or more of these divisions. A patient afflicted with anæmia or neurasthenia may suffer from neuralgia that may be aggravated by neuritis, or by a wound or bruise. A curable case of neuralgia of malarial origin, may be rendered incurable by the super-vention of organic disease of the brain or spinal cord. Illustrations of these varied forms are sufficiently familiar to the practitioner. The prognosis of the affection manifestly depends on its causation. It is impossible to give an intelligent opinion in any given case, without first ascertaining the predominant condition on which the symptoms depend. The principles on which neuralgia is to be treated, are simply these two: *first, to relieve the pain, and secondly, to remove the cause.*

The relief of pain is accorded the preference, because it is the most urgent, on account of its terrible severity. The ordinary methods of fulfilling these two indications we do not propose to discuss, but shall confine ourselves to the treatment by electricity, in the form of general, partial, and localized electrization with the faradaic and galvanic currents.

The treatment of neuralgia by the electric currents has occupied the attention of the more advanced neurologists and electricians for a number of years. Meyer devotes a small portion of his monograph to this subject.

The current from the voltaic pile was recommended for neuralgia by Grapengressen at the beginning of the present century. The galvanic current from a number of elements was employed by the late Prof. Remak, and by him this method of treatment was introduced to the profession of our time.

Rosenthal devotes a very interesting chapter to this theme, and relates a number of suggestive cases.

Althaus speaks of neuralgia in both of his works on electro-therapeutics, and records very satisfactory results.

Benedict, whose recently published treatise on electro-therapeutics is incomparably superior to any other work on this subject, in any language, enters into the consideration of the treatment of neuralgia with elaborate and scientific detail, and reports a large variety of cases.

All of these writers have achieved their results by the use of *localized* electrization merely, since this is the method which is chiefly employed in Europe.

For reasons that will be presented further on, which will, we think, commend themselves to the judgment, and accord with experience, *general electrization* is oftentimes far more efficacious than localized, especially in those cases of neuralgia that depend on constitutional conditions.

Electrization, wisely administered, fulfills, to a greater or less degree, both of the conditions that are required in the treatment of neuralgia. It oftentimes relieves pain and cures the cause of it. When applied all over the person, from the head to the feet, it acts as a powerful constitutional tonic, and *thus* helps to remove very frequent and persistent causes of neuralgia.

In order that treatment by electricity may be successful, there are needed apparatus for both currents, the galvanic and the faradaic. For the faradaic current we use the apparatus of Kidder. For the galvanic we now employ to a considerable extent, the portable air-tight galvanic apparatus of the Messrs. Chester. The general rules that should guide us in the treatment of neuralgia by electricity are these:

1st. All forms, constitutionals, central, peripheric and

reflex, that are dependent on, or associated with general debility, should be treated by general electrization, and *usually* with the faradaic current.

2d. Acute and sub-acute neuralgias, of a merely local character, are *usually* best treated by a very mild galvanic current, *steadily* applied over the painful nerves.

These forms of neuralgia, however, sometimes yield to the faradaic current.

CARBOLIC ACID TREATMENT IN SURGERY.—Dr. Kelburne King, of Hull, read a paper “On Carbolic Acid and the Antiseptic Treatment in Surgery.” Modern science shows that suppuration is not a wearing process in cases of those wounds which do not heal by first intention; granulation can occur without suppuration. Access of air is the most common cause of suppuration, not on account of the air itself, but the germs which are contained in it. Carbolic acid diminishes or annihilates suppurative action. The author had employed in different cases dressings of (1) solution of carbolic acid; (2) carbolic oil, proportion one to four; (3) carbolic putty—i. e., whiting added to carbolic oil to a desired consistence. The author claimed for the treatment: 1. That decomposition of discharges is prevented. 2. That it enables those parts injured beyond redemption to slough away without becoming foci for the re-formation of pus. 3. That it exercises a control over the formation of pus in the center of wounds. 4. That it diminishes the chances of blood-poisoning. 5. That it is of signal service to the patient himself and to those surrounding him, as all fetor is absolutely prevented.

A WIDE CIRCUIT.—One of the reporters of the *Glasgow Herald*, in a visit to Malin Head, the northernmost point of Ireland, has fallen in with a medical man whose practice embraces an area of fifty-seven square miles, having a population of 10,000: “Every family in that vast tract,” says the writer, “having a claim upon his services, one was quite prepared to hear that often for forty-eight hours together he could not find time either to eat or sleep.”

[This is equal to some Dental practitioners we have heard of.—ED. REG.]

THE following conclusions, in reference to the action of Belladonna arrived at by M. Meuriot, can not but be of interest to our readers.—ED.

I. "Atropine is the active principle of belladonna, and assumes all the properties of this solanum.

II. The intensity of its action varies with the species of animals. Herbivora are less sensible to its action than the Carnivora. In man its poisonous action is the most violent; but no animal is exempt.

III. Its action also varies with the dose employed; for small doses accelerate the heart's pulsation and augment the vascular tension; poisonous doses diminish the tension and modify the cardiac pulsations.

IV. Belladonna is a vasculo-cardiac poison, in the classification of M. Sée. Its action produces especially the innervation of the heart and of the vessels.

V. The varied phenomena produced by Atropine depend mostly upon its primordial and elective action, or are due to the elimination of the poison.

VI. Atropine acts upon the heart through the pneumogastric nerve, whose peripheral extremities are paralyzed. It augments the frequency of the cardiac pulsations.

VII. In a small dose it augments the tonicity of the vascular muscles; in a poisonous dose it diminishes, and even destroys this; whence the application of Belladonna to epilepsy, in which the access seems to be due to modifications of cerebral circulation.

VIII. The variations of the arterial tension are subordinate to the state of excitation or paralysis of the muscular coat of the vessels.

IX. In small doses atropine accelerates the respiration; in poisonous doses it diminishes its frequency.

The acceleration of these movements depends upon the excitation of the respiratory centers; the consecutive retardation, upon a paralysis of the extremities of the vagi nerves; whence its application in the treatment of asthma.

X. Atropine in a therapeutical dose, increases the activity of the excito-motory functions of the spinal cord.

In a poisonous dose it exaggerates the reflex power till it may produce convulsions.

XI. Atropine *always* produces agitation, insomnia, delirium, and in a poisonous dose, coma; it is not at all a narcotic.

XII. Atropine is eliminated by the kidneys, by all the mucous surfaces, and sometimes by the skin of man. Its elimination is always rapid; so that the action is of short duration.

XIII. The effects due to elimination are numerous, viz.: redness of the mucous surfaces and of the skin, frequent desire of micturition; colic; anal and vesical tenesmus; profuse sweat, diarrhœa, etc.

XIV. The redness and dryness of the mucous membrane explains aphonia, dysphagia, dysuria, etc.

XV. Not only are all the secretions of the mucous membrane diminished, but there may be also, on account of the activity of the circulation, a rapid reabsorption of all the liquids which have exuded from mucous surfaces or from wounds; whence its advantage in exaggerated secretions, and its effect upon coughs, etc.

XVI. Atropine, applied locally to the tissues, produces an activity of the capillary circulation, and, in a considerable dose, true hyperæmia and sanguineous stasis.

Angina and erythema produced by belladonna are analogous to the inflammatory process.

XVII. The modification of the urinary secretions are dependent upon the variations of the arterial tension.

XVIII. Belladonna is not a paralyzing agent to the smooth muscular fibres; it produces no phenomena of paralysis except in a very powerful dose, and in those cases it follows exaggerated contractions; thus it is of benefit in incontinence of urine and of the fæcès, in paralysis of the bladder, in constipation, irreducible hernias, etc.

XIX. Atropine has no elective action upon the sensitive nerves. Its local application is always followed by acute and persistent pain. Atropine acts only upon nerves in a state of hyperæsthesia and often determines analgesia, but it should be applied directly upon the seat of pain (*les nerfs affectés*).

XX. Small doses of atropine augment, toxic doses diminish, the temperature.

XXI. Atropine, especially, possesses the property of causing dilatation of the pupil, and this is its most constant and persistent effect.

It paralyzes the terminal branches of the third pair of nerves; this is the only fact well shown by experimental

physiology, in the study of the hyoscyamus also. (Gubler, Mydriasis caused by Belladonna.

To this paralysis of the ciliary branches of the nervous motor ocularis communis is attached the paralysis of the muscle of accommodation.

XXII. Certain experiments and several considerations that have been made public by the author, tend to show some exciting action upon the sympathetic nerve or upon the *dilatateur*. However, a more vigorous demonstration is still essential.

TO ASCERTAIN THE POWER OF A MICROSCOPE.—The *Scientific American* gives the following method for this purpose :

Place a small object of known length, say from 1-20th to 1-50th of an inch, on the stage of the microscope, and looking at this through the instrument with one eye, with the other look at a foot rule held at the level of the stage. With a little practice both may be seen at once, when by dividing the space apparently occupied by the object on the scale by the known length of the object, the magnifying power will be obtained.

If the power is very high, the best object to use is a glass micrometer, which may be purchased for a dollar or two, of any optician, with lines ruled on it to hundredths or thousandths of an inch.

THE FIRST INOCULATION FOR SMALL-POX.—Cotton Mather, “the distinguished divine,” introduced inoculation for small-pox in the 18th century. He accidentally came upon an account of inoculation as practiced in Turkey, and bored physicians with the scheme for a long time unsuccessfully. On the 27th day of June, 1721, Dr. Labdiel Boylton inoculated his only son for small-pox.

THE FIRST QUACK IN AMERICA.—Perhaps the first mention of a quack is found in the Massachusetts court records for 1631, which show that one Nicholas Knapp was sentenced to be fined and whipped “for taking upon him to cure the scurvy by a water of noe worth or value, which he sold att a very deare rate.”

NEY'S BATTERY.—This cheap and convenient battery is constructed as follows: It consists, in the first place, of a glass vessel, filled with a solution of sal-ammoniac; then of an amalgamated zinc plate, which dips into the vessel. Further, of a porous cylinder of clay, standing in the same vessel, and filled with carbonate of copper, in which a plate of copper is suspended. For field and telegraph purposes, it is well to fill the glass vessel with fine sand, saturated with sal-ammoniac solution, instead of the pure solution itself. It is only necessary to add the crystal sal-ammoniac from time to time, in order to keep this battery in constant activity. The carbonate of copper is itself insoluble in the sal ammoniac solution; but under the influence of the galvanic current, the sal-ammoniac is separated into the hydrochloric acid and ammonia, the first of which attaches itself to the zinc, and the latter to the salt of copper, and dissolves it. During the reduction, a secondary current is produced, which is equivalent in strength to that of a Daniell's battery.

COFFEE AS A DEODORIZER.—Coffee is spoken of in high terms by foreign journals as a deodorizer for the neutralizing of foul odors that emanate from organic bodies in a state of decay, as it can be used to advantage where other disinfecting agents would be inadmissible. In cases where rats die in the spaces between the floors of dwellings, the intolerable odor arising therefrom can be effectually removed by placing a pound or two of fresh burnt and ground coffee between the floors. For the purification of a sick room it is incomparably superior to burning rags, as it has a beneficial chemical action on the atmosphere of the room, and gives, besides, an agreeable perfume.

BROWN-SÉQUARD.—Dr. Brown-Séquard has accepted a chair in the Paris Faculty of Medicine.

THE FIRST PERSONS VACCINATED IN AMERICA.—In July, 1800, Dr. Benjamin Waterhouse, of Cambridge, Mass., submitted four of his children to the new process, and they were the first persons vaccinated.

Editorial.



CONTINUOUS GUM WORK.

WE publish in this number of the REGISTER an interesting paper on the subject of continuous gum work, by Dr. John Allen.

This style of work was introduced to the profession some fifteen years ago, mainly by Dr. Allen's efforts. Its use was adopted by a considerable number of the profession within a few years after its introduction, but with by no means uniform results; a few failing in their first efforts, abandoned it; others obtaining better results, but not meeting with entire satisfaction gave it up, after a longer or shorter period. Within the last seven or eight years, there has been very little of it done; indeed, with here and there an exception, none at all.

A review of the causes for the non-adoption of this style of work, by the profession generally, may perhaps not be without interest.

First and negatively, it was not because of any failure in the method to answer the indications and requirements of an artificial denture; for this, all who are familiar with it will acknowledge that it possesses in the highest degree, or at least to a greater extent than any other method hitherto employed.

By that process, with the materials and teeth now furnished, artificial dentures can be made, by proper skill, that will defy detection under any casual observation. By it a far more perfect arrangement of teeth can be effected than by any other, both in respect to appearance and occlusion.

The deformities occasioned to the contiguous parts by the loss of the teeth, are more perfectly remedied by this kind of work, when properly made, than by any other. Its adaptation may be as thoroughly and as easily made, as is that of anything else.

The question still occurs, if these things are so, why is not this work in general use? In reply to which we will say, that it requires for its production a higher type of skill, than any other method. In what respects? it may be asked. Perhaps no more skill in procuring an impression, in making models and counter-models, in forming and swaging the plate, is required than for making one of gold, yet each of these steps must be very skillfully and faithfully performed, to secure the best results. The bite or articulation is obtained upon the same general principle as for other work. But now comes the point, where high artistic skill is required, viz.: the selection and arrangement of teeth; and here we will be pardoned for making the suggestion, that a far greater variety of these are needed to meet the variety of cases presented; as every face has its individuality, so has every set of teeth; and the make up of this individuality, embraces form, shape, size, color and arrangement, and every case presented, requires something different from every other case. But how often do we see the Dentist buy, perhaps, fifty sets of teeth, nearly all from the same moulds, and varying but little in color, and yet take them up almost in rotation, and thrust them into the mouth of whoever may present themselves, man, woman, or child; and with such skill, of course, no attempt whatever is made for the restoration of deformed parts; and hence it is, that we so frequently see those Dental caricatures (monstrosities we had almost said,) in the mouths of faces otherwise beautiful.

In the arrangement of continuous gum teeth, any variation or arrangement that may be desired is attainable, which is not true of any other mode, except "Rose Pearl." The teeth being separate one from another, may each have one inclination or another, shortened or lengthened, one or more turned upon its axis; all this, and more, just at the option of the operator.

The attention and study, necessary for the highest results, in this particular is not, and will not be exercised by a very large majority of our profession. There are various reasons for this, among which are the facts, that very many have not the natural ability, and have not the susceptibility of being educated to any considerable extent; and others, are situated in communi-

ties that have so low an appreciation of the beautiful, that no encouragement would be extended to any one, who should essay its production.

In the arrangement of artificial teeth, the only safe course for any one possessed of a low degree of skill, is to make as perfectly uniform regularity as possible; if such an one attempts irregularity in the arrangement, he is liable to the grossest blunders, giving perhaps to the round, regular, smooth featured face, teeth quite irregular in arrangement, while to the face, irregular, angular in form and expression, he would place the teeth in perfect circle, as trim as well drilled soldiers.

In the use of teeth in mastication, very much depends upon the occlusion of the upper and lower set; this can be most perfectly accomplished in continuous gum work.

The next point requiring special attention is putting on and carving the body. This over the main plate, should be of as nearly uniform thickness as possible. Close attention and experience will enable almost any one to obtain good results in this respect.

One of the greatest difficulties in the way of the general introduction of this style of work, is the management of the furnace and baking; in this every one must learn by experience, and there are some, that experience, though a good schoolmaster in general, fails to bring up to any high degree of attainment.

In order to be an adept in the use of the furnace, one should be constantly engaged at it. Much depends upon the furnace, its form, situation, etc. Nearly all the furnaces that have been in use, in the West at least, have, as we know from experience, been very deficient in form and structure.

Another source of failure has been in the fuel employed, coke has been almost the only fuel used in Dental furnaces heretofore, and many failures occur from that source alone. A heat from it is very fluctuating, changing almost constantly; it oftentimes contains a large amount of sulphur and other deleterious agents, that are destructive to porcelain; it destroys muffles very rapidly. Anthracite coal is the only fuel that should be used in a porcelain furnace; it is free from injurious substances, makes a uniform and beautiful heat. A fire of this coal, well prepared,

may be brought up to the requisite degree, and by proper management retained at that for hours. With such an arrangement of furnace and fire, the baking of continuous gum work becomes an easy and certain process.

We are glad to see that attention is being directed to this work. Some are taking it up for the first time, others are returning to it, who some years ago abandoned it, being seduced therefrom by the fatal delusion that something easier to work, for the Dentist, and cheaper for the people was required. It was a delusion, the utter mischievousness of which almost every one is free to confess, yet while so confessing, there are some who clasp it to their bosom, while it stings their profession to its core. T.



AMERICAN DENTAL ASSOCIATION.

The next annual meeting of the American Dental Association, is one to which our whole profession look with interest, and as one of great importance.

It will be productive of good results in proportion as all of the members and delegates go up to its meeting with a just sense of the responsibility resting upon them, every one prepared to accomplish well the work devolving upon him. Let every one have something put in proper form, so that if occasion calls for it, or an opportunity is offered, it may be presented, so as to bless others. But this does not constitute all the preparation, let every one examine himself, and ascertain in what respect his deficiencies exist, and then let him be on the look-out for that which will strengthen his weakness, and for that which will enlighten that which is dark—for knowledge to supplant ignorance. We are never so well prepared to learn, as when fully aware of our lack of knowledge.

In addition to the general work of preparation by all of the members of the Association, there is a portion of the membership constituting various committees, whose duty it is to make particular preparation upon special subjects, every one of which, we trust, will be fully prepared. We would suggest that the members composing each committee confer together, and let their reports be the result of wise and deliberate counsel.

We append the names and addresses of the persons composing the various committees :

Committee of Arrangements—J. G. Ambler, New York ; L. W. Rogers, Utica, N. Y. ; L. S. Straw, Newburg, N. Y.

Pathology—W. H. Atkinson, New York ; J. S. Latimer, New York ; Moses DeCamp, Mansfield, O. ; Geo. S. Moffatt, Boston ; A. B. Robbins, Meadville, Pa.†

Physiology—W. H. Morgan, Nashville, Tenn ; A. Westcott, Syracuse, N. Y. ; H. S. Chase, St. Louis, Mo.

Chemistry—T. L. Buckingham, Philadelphia, Pa. ; H. A. Smith, Cincinnati, O. ; A. Lawrence, Lowell, Mass.

Education—J. Taft, Cincinnati, O. ; F. J. S. Gorgas, Baltimore, Md. ; M. S. Dean, Chicago, Ill.

Dental Literature—R. W. Browne, New London ; L. D. Shepard, Boston ; J. McManus, Hartford, Ct.

Histology and Microscopy—J. H. McQuillen, Philadelphia, Pa. ; W. W. Allport, Chicago, Ill. ; J. S. Dodge, Jr., New York.

Operative Dentistry—C. R. Butler, Cleveland, O. ; J. S. Knapp, New Orleans, La. ; W. H. Allen, New York.

Mechanical Dentistry—John Allen, New York ; N. W. Kingsley, New York ; C. H. Harroun, Toledo, O. ; J. A. McClelland, Louisville, Ky. ; S. B. Palmer, Syracuse, N. Y.

Prize Essays—G. H. Cushing, Chicago, Ill. ; A. L. Northrup, New York ; W. F. Morrill, New Albany, N. Y. ; E. C. Francis, New York ; F. N. Seabury, Providence, R. I.

Voluntary Essays—M. S. Dean, Chicago, Ill. ; A. M. Moore, Lafayette, Ind. ; W. P. Horton, Cleveland, O.

Dental Therapeutics—E. A. Bogue, New York ; I. J. Weatherbee, Boston ; A. P. Morrill, New York.

Publication—Homer Judd, St. Louis ; Edgar Park, St. Louis ; Wm. N. Morrison, St. Louis.

Surgical Instruments and Appliances—W. C. Horne, New York ; Corydon Palmer, Ohio ; J. A. Bishop, New York.

T.

DO WE USE OS-ARTICIAL?

YES, in almost all cases where any thing else is called for than gold. For temporary purposes we regard it, all things considered, as the best material now in use. Its efficiency depends much upon the manner of using it. Like other things it must be properly manipulated, to secure the best results. The first point, after having a good material, is the thorough mixing or kneading, which must be done quickly, and introduced before solidification begins. The mass when introduced should be of that consistence in which the watery appearance upon the surface does not appear.

The next important point is retaining the filling dry till the material is thoroughly hardened. This will require from ten to fifteen minutes; indeed, it is better to protect the surface from moisture for a much longer time, which may be done by a coating of softened adhesive wax, requesting the patient to retain it as long as possible; after this a better finish may be given to the filling than it was possible to make when it was introduced.

By pursuing the plan indicated, fillings may be made of this material that will remain for several years; their durability will however, depend much upon the exposure in mastication; for fillings upon the masticating surfaces of the molars and bicuspid, it is of little value; especially in small and medium sized cavities.

T.



THE PHYSICIAN'S DOSE AND SYMPTOM BOOK,

Containing the Doses and uses of all the principal articles of the *Materia Medica*, and officinal preparations, etc., etc.

By JOSEPH H. WYTHES, A. M., M. D.

EIGHTH EDITION.

"This little work was compiled for the assistance of students, and to furnish a *vade mecum* for the general practitioner, which would save the trouble of referring to larger and more elaborate works." This is eminently a *multum in parvo*, and when once employed by any one in any branch of medical practice, will be regarded as indispensable. For sale by R. W. Carroll & Co.

THE DENTAL REGISTER.

VOL. XXIII.]

APRIL, 1869.

[No. 4.

Original Communications.

THE DENTAL PROFESSION *vs.* RUBBER.

BY B. WOOD, M. D., D. D. S.

Looking over the late journals we find not only the "rubber question," but the merits of rubber itself as a base for artificial teeth receiving a good share of professional attention. The general expression is adverse to this material for permanent work, and there is manifested a strong inclination to return to metal plates.

We will reproduce the drift of what we find, *pro* and *con.*, preliminary to some remarks on the general question. We will go no further back than the latest numbers of journals before us, and if it should make too lengthy a communication, you, Mr. Editor, may retrench it or place it under the head of "Selections."

In an article on "Mechanical Dentistry," in the *Dental Cosmos* for February, the writer (Dr. J. B. Da Camara, Jr., of Newark, New Jersey) says, speaking of vulcanite or hard rubber: "In point of durability it is unquestionably comparatively worthless. It will rarely wear more than from

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three to five years intact. After being worn from one to two years, the plate becomes saturated with the fluids of the mouth, the fatty substances contained therein, and those which are constantly coming in contact with it, assisted by the heat of the mouth, decompose the rubber—not to a very great extent, to be sure, but surely sufficient to weaken it materially; it soon gives way, blocks begin to work loose and fall off, with pins intact, having dragged their heads through the rubber. The plate cracks down through the center and eventually breaks in two pieces. Hygienically, I have met many who complain of a heating, drawing sensation, which obtains to such an extent, sometimes, as to produce bronchial affections. Its injurious results upon constitutions peculiarly susceptible to the effects of mercury, which is certainly liberated as the plate undergoes decomposition, and the pollution it produces in the very air we breathe by its fetid condition, convince me of its unwholesome nature, and are arguments too conclusive to be refuted. I have never seen a rubber plate that had been worn two years but that was *disgustingly offensive*, and had commenced to show signs of decay.

“Our patrons have been deceived and disappointed by it; they have been cursed by the imposition upon them of charlatans and impostors.”

At a late meeting of the “Odontographic Society of Pennsylvania,” the merits of rubber underwent a pretty free discussion, as we find in the report of the proceedings.

Dr. Jones said: “The art of manipulating with the hard rubber could be learned in a very few days by almost any one having a slight idea of mechanical work, so that it has now become an injury to the profession by encouraging bunglers.” He also objected that the facility with which rubber dentures were obtained by patients had caused them to part prematurely with their natural teeth.

“Dr. W. H. Truman thought rubber to be very rarely as useful as gold or silver. In regard to cleanliness he thought

too much had been claimed for vulcanite. In breaking up old cases (a pastime he had indulged in lately) quite a large space is often (indeed, almost invariably) found between the plate and teeth, into which particles of food and the fluids of the mouth find their way. These, in decomposing, give out an odor which, to say the least, is not very pleasant. Sometimes he had found bristles, from the brush used in cleaning the case, worked under the teeth. The rubber being in a measure porous and an organic substance, retains impurities with far greater tenacity than either gold or silver."

Again, "unless made so thick as to be clumsy and awkward in the mouth, there is constant liability to accident. The plates will crack sometimes in spite of every thing, and so will gold or silver, but with the latter the accident can be repaired in a short time, and the case made as strong or stronger than before, while the rubber becomes weaker and more liable to accident every time it is revulcanized, until, after passing through the process three or four times, it becomes entirely worthless.

"As the skill required by the workman in hard rubber is inferior, it had inaugurated slovenly and careless habits; it had enabled men to enter the profession without making the least effort to properly qualify themselves for it.

"Within the past three months he had replaced at least half a dozen vulcanite cases with gold or silver. One gentleman, who has been for many years a practitioner of medicine in this city, for whom a gold set was made in place of one on vulcanite, asserted that he would not have worn the rubber in his mouth for \$500, if he had thought, when it was inserted, that his general health would have suffered as it had done since. He now believes it was entirely due to the vulcanite upon which the teeth were mounted. He had worn them a little over three months, and soon recovered his health after discontinuing their use.

"Dr. T. believed that rubber had had its day. The exorbitant, unreasonable and humiliating terms of the Dental

Vulcanite Company are fast driving it into the hands of men without either talent or ability. In their careless hands it will not take long to destroy the reputation that really skillful workmen have made for rubber."

"The President said that the facility with which rubber can be used had lowered the standard of mechanical Dentistry. Again, thousands upon thousands of teeth which might have been preserved have been sacrificed, owing to the limited expense of such dentures in comparison with the cost of saving the natural organs. Again, it is more than probable, owing to the importunities of patients and in opposition to their own convictions, that this material had been too extensively used, even by skillful and experienced workmen. But that it fills a niche, when properly used, quite equal to any other material, must be admitted by all, as, for instance, in cases where there has been great absorption of the alveoli, &c. He did not wish to be understood as advocating its use when it is possible to avoid it, particularly when viewed in its relations to the exactions of the Hard Rubber Company. Regarding gold and silver as materials which have stood the test of time—looking upon Dr. John Allen's continuous gum-work as one of the most valuable inventions of the past twenty years in our profession. Those engaged in mechanical Dentistry will find ample opportunity for the construction of satisfactory operations, and be able to dispense, to a great extent if not entirely, with the use of hard rubber."

"Dr. Long considered that hard rubber had been of very slight, if any, advantage to Dentists. It very rarely seemed to be necessary to use it, as it is seldom equal to gold or silver for a base."

"Dr. Howard favored this material for its ease of manipulation, surety of fit and lightness, where the latter quality is desired or demanded. In durability he did not consider it on a par with gold or silver, and justice to our patients can be rendered with these metals in pretty much all cases."

Dr. Eisenbrey believed, in a great many instances, teeth

mounted on rubber can be made to give greater satisfaction than on metals, "and without detriment to the patient's health." He held that "the detriment to the patient wearing a vulcanized plate, was not from the mercury it contains, but owing to the decided want of conducting property of the substance, it being placed among the lowest on the list of nonconducting bodies. A closely fitted plate, together with the drawing of an air chamber, causes an excess of blood to flow to the parts; consequently, an increase of heat is generated, which, not being diffused over all parts of the mouth, the local increase of temperature is retained. Gold and silver being among the best conductors of thermal changes that we have, as fast as there is an excess of heat in the plate, it is conducted over the whole surface of the mouth, thereby keeping it in a state of equilibrium of temperature throughout; hence, there is no uneasy feeling in the hard or soft palate from this cause. The metal plate, he believed, carries off the heat, allows the capillaries to maintain their tenacity and forces the blood on, keeping up in them a normal instead of an abnormal circulation, giving ease and comfort to the patient."

Dr. Breen "likes it better and believes it gives more satisfaction to the patient than gold or the other metals. It has the advantage of being lighter, which reduces the liability to break from falling, and a better fit is procured."

"Dr. Stellwagen desired to be clearly understood that, although in nearly every case he thought that the old-fashioned metal plate was superior to vulcanite, he still recognized that cases might arise when the latter would be preferable under certain co-existing circumstances—then he would recommend the patient to find some one who had the right and ability to make such a piece of work as might be required. He did not use it himself, and thought that the number of instances in which its lauded superiority was urged, were more apt to be due to the readiness with which laziness excuses itself for an imperfect operation, than the

result of a truly unbiased comparison of the advantages and disadvantages arising from its use. The testimony of many, some of whom are celebrated for their learning in the medical and other liberal professions, assure us that sometimes a diseased condition supervenes upon the wearing of vulcanite, from some cause or another, which we need not stop to discuss, since it is admitted by even the advocates of the use of rubber. This fact certainly will, to the conscientious, forbid its employment, except in the very rarest cases, when it seems to be the only thing that can be used. The economy is on the side of the metal plate in at least a ratio of 5 to 2; or, a well constructed set on silver for thirty dollars will, at a moderate estimate, outwear two and a half sets on vulcanite at twenty dollars each."

Dr. C. N. Pierce "had now entirely abandoned the use of rubber, as he was convinced that well made silver sets, heavily galvanized with gold, were far healthier and better in every way than hard rubber, in all but rare cases."

We find, also, in the last DENTAL REGISTER, in a communication by Dr. J. P. H. Brown, of Augusta, Georgia, and in the report of the proceedings of the Ohio State Dental Society, expressions of opinion adverse to rubber upon grounds similar to the above, but as these are already before your readers, we need not reproduce them here.

Now, the Rubber Company come before the profession and demand from fifty dollars to two thousand dollars a year for the privilege of using this material—not, indeed, a definite sum, payable yearly, so much a year, but such as the company see fit to levy each year. It may be fifty dollars this year and two thousand dollars the next year, according as its use may seem to be indispensable to the Dentists, or the extraordinary exigencies of the company may require.

What ought the profession to do in the premises? We incline to the opinion that they ought to *abandon the use of rubber with one accord, and refer their patients who may*

demand this style of work to skillful and honest rubber-workers, who will not claim the name of "Dentist," nor in any way tamper with the natural teeth. Some of the reasons in favor of this will be set forth upon another occasion.



THE HEALTH OF THE DENTIST—MEANS OF PRESERVING.

BY H. M'CULLUM, D. D. S.

(Continued from page 120.)

If the writer of this essay understands himself and his subject, the object of this paper is to so advise the Dental practitioner as to enable him to avoid the influences that would be likely to affect his health injuriously, while engaged in the duties of his chosen profession.

In a word, the object of this essay is to aid such as regard their health as a matter of primary importance, in prosecuting the duties of an honorable and beneficent profession in such a manner as to avoid the dangers to which they are liable, while engaged in that vocation.

If this end can be achieved, it is certainly a most worthy and desirable one; where it can not, and where the D. D. S. has not sufficient faith in the "*vis medicatrix naturæ*" to warrant him in seeking aid in that direction, it is better that he call to his aid some medical friend, in whose professional skill he has the necessary confidence. I am one of that class who would not presume to write a prescription for an individual, of whose symptoms of disease and peculiarities of constitution I had every thing to learn.

Ignorance is but a blind guide in those who offer advice, as well as those who seek it.

If one has not a sufficient understanding of the laws of hygiene to enable him to avoid disease while in health, he is poorly prepared to pilot himself back to health, after disease has overtaken him; and the most favorable time to gain the

required knowledge, is not while suffering the pain and distress incident to disease, but rather while enjoying the vigor and sprightliness of health.

The greatest experts in medical science call some of their brother physicians to their aid if they become sick, and this is no doubt the best they can do under the circumstances, to seek the aid of the friends, in whose intelligent sympathy they have the highest confidence, when sick. But seek knowledge during health. There is one more condition to health that we may not pass unnoticed, viz.: the necessary alternations between activity and rest.

This natural law of the animal organization is as constantly prevalent, as imperative and as all pervading in its demands, as the necessity of food or respiration; this is not merely a general law, but applies to each member of the organism, separately and distinctly. Activity is no more essential to health than a due interval of repose, not only the voluntary but the involuntary actions or organs, require their appointed seasons of increased and diminished activity. Vegetable life is also characterized by alternate periods or seasons, of active development and wintry suspension of vital processes.

For the Dentist, and all others who are engaged in what are termed sedentary employments, it is important that they attend to the exercising of those members or faculties that are not brought into exercise (if there be any such), during the performance of their regular professional labors, that they take constant care to allow a sufficient time regularly to sleep, and recover from that feeling of lassitude and prostration that follows severe or protracted effort, and that at the same time they guard against the opposite extreme, viz.: a tendency to permit the necessity for rest lead to habits of idleness, listlessness, or downright laziness.

The importance of a sufficient amount of time, set apart at regular diurnal intervals, for sound and uninterrupted sleep, can not well be over-estimated; the most favorable

conditions to sleep are, a dark room, with free ventilation, a mild temperature, firm bed and light covering, the stomach unincumbered with undigested food, a mind free from anxious care, a conscience at peace and void of offense, the pulse free and regular, but subsiding after the toils and exciting activities of the day.

Thus far we have considered the Dentist merely as an individual member of the human family, we can only touch on his social and moral relations, though the external relations may exert an important influence on the health, the subject is too vast, with complications too intricate and too widely diffused, to permit its being treated fully in a treatise like the present.

But there is one point in man's external relations, that we must not pass unnoticed. There is a claim on his careful and constant attention that he may not ignore or neglect with impunity. There is a power higher than his own, that guides his destiny, if it be guided safely and successfully. No one, however wise, or strong, or cunning, maintains an independent existence; but whatever of wisdom, or strength, or skill he may lay claim to, has been received from the great Creator, the rightful sovereign of all things, from whom every good and every perfect gift is derived; and he can only retain, or use such advantages or gifts as may be placed within his reach, in conformity with certain fixed and specific laws, that must ever limit and control all human actions; and an understanding of these laws comprehends the whole sum of human knowledge. A conformity to them secures the highest attainable degree of human success, of health and happiness. The first lesson, then, in a manual of health is, of necessity, it must be an acquaintance with the laws that the Creator has enacted and established for the government of man's physical nature.

Now, don't be alarmed my worthy friends. I do not propose to set myself up as the champion of any phase of sectarian bigotry, or ecclesiastical dogmatism, but hope to be

indulged in a few remarks on the propriety of studying the divine will as such, as it is published in one volume, viz : the great volume of nature;* that we accustom ourselves to regard a knowledge of these laws as an indispensable condition to success in every enterprise in life, and especially when we seek the preservation or restoration of our health. All our actions as men are under the control of the will, guided by the understanding. If the understanding be at fault, the whole performance proves a failure. As rational beings our actions must be directed to the attainment of some desirable end, to the accomplishment of some worthy purpose. The divine law limits and fixes the relation or connection between causes and effects, or actions and their consequences in all things. No one can accomplish any worthy object, only in the way of obedience to the divine will. If we would co-operate with another, we must first understand the design of the intellect that projected the operation. We can only follow or accompany another, so far as we understand them. To act in harmony with the divine will it is necessary that we understand what that will is. This is as plain and explicit a statement of the case as we know how to make.

As social beings we are bound to seek and strive to promote the best interests of the community in which we live. Our own individual welfare is inseparably connected with the elevation, the purity and rectitude of the individuals composing the society of which we form a part. As moral, accountable beings we can not appropriately express the gratitude, reverence and devotion due to the author of our existence, otherwise than by an earnest effort to understand the purposes of his will respecting us, and an honest, persistent endeavor to perform the task assigned us in unwavering faith and unswerving integrity.

Some may suppose that it requires the eye of a fanatic to

*Not to the exclusion of Revelation]

see any connection between physical health and moral rectitude, or social propriety. We can not quite consent to be held responsible for all the errors that may be met with in public opinion, or the gaps that may be found in general intelligence. If all men were fully and correctly informed, a great number of monstrous and some very minute errors would be corrected, and the necessity for such a tract as this would be done away.

There are thousands to whose understanding the motion of the hands and feet would appear as a self evident fact, to whose individual perceptions the circulation of the blood would never be revealed, and still the proofs of the latter fact, to those who examine them intelligently, are quite as clear and conclusive as the former. There are, no doubt, truths that to one mind appear so plain that any argument offered in their support would appear as a superfluity, that his next neighbor could only regard as a fable or a falsehood. Must the incredulity or stupidity of the latter overthrow the faith of the former?

Though all men may have been created equal, politically considered, still there is almost an infinite diversity of characteristics and capabilities, when regarded as individuals, physically, socially, mentally or morally. As men approximate toward the character and condition of the lower animals, their physical status is less affected by moral and social influences, and as the intellectual and moral predominates, they are more liable to suffer in physical health from causes that assail them through the higher departments of their nature. As the moral, social and mental elements form a part of every true human character, and, as we are writing expressly for the benefit of humanity, we trust a few words of advice as to the care and management of the mental, moral and social relations as pertinent to the subject.

Men that desire good health should aim to secure peace of mind, a quiet conscience, unfaltering faith in the protecting care of omnipotent power and unerring wisdom, a ready

acquiescence in the awards and behests of divine goodness ; in a word, freedom from care, fear or regret, from whatever source or of whatever kind. In the next place they should take care that their domestic relations and interests are duly arranged and regulated. Whether man be universally admitted as a religious animal, no one can doubt the existence of the social, the domestic element in his nature, or lightly estimate its importance. Probably there is no external influence that will, in a large majority of cases, exert a more highly salutary and sanitary influence than the keeping the domestic relations under proper directions, regulations and limitations. No adverse external circumstance more certainly or speedily undermines and overthrows the health and peace than deranged, misplaced or misdirected domestic relations and affections. Some individuals are so constituted as to forego the domestic relations with impunity, but by far the greater number speedily fall into some fatal disease, when they see all hope and prospect of domestic and social happiness cut off. We here repeat the assertion, that all the faculties demand their full and legitimate exercise, under the impulse of their legitimate and appropriate stimulus, and every deviation from this requirement involves, first, functional and ultimately organic derangement, and while the moral sentiments, and social and domestic affections form composite elements in the human character, we can never permit them to run wild or hibernate too long with impunity. And as individuals approximate more and more nearly to the correct standard of humanity, the operation of those external influences become more deeply and extensively prevalent. True, there may be some whose susceptibility to external influences is in excess, but in a large majority of cases the merely animal selfish characteristics greatly preponderate.

I hope to be pardoned for having dwelt on this point somewhat at length, as I have labored under the impression that its importance is too often disregarded.

Permit me now to recapitulate briefly. The first matter that claims the attention of the honest, earnest seeker after health is, that he gain a full and correct understanding of the conditions on which health is obtained and preserved, of the laws that govern the physical nature of mankind, and, also, his own individual relations to health and tendency toward disease. It is important that he secure a regular supply of sound, healthy food, selected and prepared with due regard to his external surroundings; aye, occupation and constitutional peculiarities, &c., and when the claims of social etiquette or pecuniary interest conflict with his regular periods of eating, let the etiquette and the interest, with any other illmannered juveniles *wait*, while he takes his "daily bread" regularly, quietly, cheerfully and temperately.

It is also important that he avoid the necessity of breathing an impure or vitiated atmosphere; that in the construction and appointments of his habitation and place of business, and in the necessary contact and association with his fellow men, he avoid, as far as practicable, all disagreeable odors, all obnoxious vapors; that in his individual habits he accustom himself to a liberal share of outdoor exercise, without too much regard to the weather, without too careful avoidance of a little rain or sunshine, but careful to shun unclean localities, and absolutely to forego all kinds of filthy practices. Although the circulation is not under the direct control of the will, it is readily affected by actions and influences that are; as, likewise, by the emotions of hope, fear, joy, grief, mirth or despondency, which are not at all times under the direct control of the will.

The circulation, considered with regard to the force, frequency and regularity of its pulsations, may be taken as the most reliable index to the present vital conditions. But the most important practical idea in regard to the circulation, connects itself with the fact that it is controlled in its force and direction by the voluntary actions, that being the medium

or channel through which the elements of nutrition are distributed to the various parts of the organism. We understand how men are developed and strengthened in whatever direction the voluntary actions indicate.

With regard to the nervous system, which unites all other parts in one individuality, and also connects us with the outside universe. Its multifarious capabilities are quickened, extended and strengthened in whatever direction the voluntary actions demand or direct the exercise of its functions. Thus, all the different members or faculties are strengthened and endowed with greater activity, as the will, through the mysterious agency of the nerve force, directs the circulation.

To those who estimate health at its due value, it should be a leading consideration that the faculties be all trained to observe their due limits; that all the organs be duly and regularly exercised on their respectively appropriate objects, and that thus the vital operations or functions be regularly conducted or exercised in a healthy channel. Health and disease, like all other vital activities, may be the result of habit; or, in other words, may for a time continue in active operation after the apparent cause that first called them into activity has subsided.

A few words of special advice to Dentists and all others who desire to preserve or improve their health, and we close.

After you have learned to know yourself correctly, place a special guard over every weak point. If your digestion be slow or imperfect, use your best discrimination in the selection and preparation of your food; let no social influence or individual appetite betray you into any indiscretion in this direction. If your lungs be weak or irritable, never venture into an impure atmosphere. A large company in a close room should always be avoided. The smoke from coal and tobacco are a source of injury to thousands; the result of combustion every-where, whatever changes the constituent elements of the atmosphere from the normal proportions, tends to render the atmosphere unfit for the

purposes of respiration, and especially dangerous to weak or diseased lungs.

Indeed, you can not oppress or abuse the stronger faculties with safety. Suppose, for instance, the digestive system be overtaken; if the lungs be healthy and vigorous, they will come to the rescue. A part of the superabundant carbon is consumed in the lungs, furnishing an increased temperature that favors perspiration and increased activity of the circulation, all combining to dispose of the undue amount of food with the least possible injury; whereas, if the lungs be weak the extra duty imposed by the stomach prostrates their feeble strength, obstructs and embarrasses their action, and straightway they fall into active disease; and this rule holds good throughout, that if we abuse or misuse one of the members, all the members suffer with it. There is one other admonition that must not be overlooked, viz: that those who desire safe and enduring health, must not rely on nervous stimulants, anodynes narcotics, &c. The demand for stimulants arises from an embarrassed or dissatisfied condition of the vital consciousness, growing awry the result of exercising some of the faculties inordinately, while others are left in idleness, to grow dwarfish and misshapen, for want of proper exercise and consequent development. There is a consciousness of deficiency or defectiveness, and the nervous system grasps at whatever arouses it to activity, as a drowning man clutches a straw.

Almost all heathens, whether savage or civilized, manifest an intuitive proclivity to seek enjoyment or excitement in the use of narcotic poisons, and none other but heathens in this or any other age, country or community. No candid votary of sound health will long be misled in this direction.

A competent military chief will not long wage war on his own sentinels, because they may sometimes disturb his repose. He well knows that his present safety and future success is too largely dependent on their vigilance and fidelity. The sense of discomfort that clamors for the grati-

fication of a depraved or vicious appetite, is the alarm raised by the sentinels that the commander-in-chief of the life forces has appointed and stationed to guard the approaches to life's citadel, and the employment of narcotic poisons can not repel the adversary, but only silence the sentinels.

No one who estimates his life and health at their true value can afford to blunt his physical sensibilities with the paralyzing influences of alcohol, tobacco or opium. Coffee and tea are also inimical to health and life, and the policy that includes them in our daily bill of fare is kindred to that which would incorporate traitors and rebels in a company of life guards.

A sense of pain, a consciousness of discomfort is the first indication of returning health, if health ever will or may return, and when the nervous consciousness is destroyed, all hope of a return to health is lost. Consciousness is one of the conditions of animal life, and full, correct, clear consciousness is a condition of good health. No one can justly claim to enjoy good health while they rely on the aid of some artificial stimulant to urge or spur the vital organs to the performance of their legitimate functions, and no one is warranted in regarding his health as in a safe condition while he suffers himself to tamper with these agents.

It was not the design, in the preparation of this paper, to say every thing that might be said on the subject of health, but rather to discuss some of the most prominent points, to refer to some of the fundamental principles of hygiene and pathology, and occasionally point to some of the landmarks for the better guidance and assurance of such as may look to these pages for assistance in regaining or preserving their health. Remember, Dentists are but men in all that relates to life or health.

WHEN SHOULD THE FILE BE USED ?

BY W. F. MORRILL.

[Read before the Wabash Dental Association, March 24, 1869.]

The practice of using the file on the teeth has been common more than one hundred years. The pioneer Dentists knew little beyond this method in preserving the teeth. Rude and ill-contrived as their investments were, they were compelled to have more space in which to perform their operations than we of a later day. Nicer perceptions of the file's uses have been revealed unto us, and the former excesses, to which many were guilty, have either been abandoned or they are confined to those who revere antiquated habits and customs.

The form of this question—when should the file be used?—infers that at some time or another there are pathological indications which would justify us in its use; that the objects we have in view can not be so well secured as by employing the file. It is true, however, we have among us those who presume to have arrived at that par excellent point of practice where the file becomes obsolete, while other poor mortals, not so blest, are left content to drift along in a custom which has the must of age upon it. Of the former, ignoring the use of the file, I have no acquaintance, nor can I speak with confidence of their successes.

As auxilliary to the purposes of the file, I may mention the large variety and forms of chisels which are now introduced to the profession as possessing great advantages. The separations between teeth can be much more quickly done, the breaking down of projecting enamel walls, and otherwise facilitating our operations in these respects by the aid of chisels than with the use of files. But with all this speed in removing tooth substance, it does not necessarily follow that we shall discard the file. It still has its separate duties to perform. The smooth and regular surfaces, the forms and

shapes we desire the teeth to assume as initiatory to filling, require the file. The slight, but necessary, service it does around the cavity's edges just previous to filling, we are beginning to know how important it is.

Of the many abuses of the file there are just grounds of complaint. As an evidence of mischief or distrust the discussion now provoked in this direction is ample testimony. The liberal and, in some instances, the unsparing use of the file should arouse us to a sense of inquiry whether our present practice be sound and correct. We can not disguise the fact that thousands of teeth pay their annual tribute to this sacrificial alter. To destroy one-third or one-half of the tooth substance to preserve the balance, is certainly very primitive practice. The numerous bicuspid, molars and laterals, having so much of the tooth tissue wasted, is not flattering nor in keeping with the enlightened progress of our science. By this destructive method, the train of evils afflicting the patients becomes troublesome; particles of food force their way up between the approximal surfaces of the teeth; the gum and investing membrane of the teeth become irritated, which occasions much inconvenience. Added to these evils, we have the loss of the masticating surfaces, together with the symmetry and beauty of the teeth. Moreover, along the margins of cavities filled, and the dentine tissue left unprotected by a flange of gold extending over it, we find streaks of caries making their appearance. Does this practice warrant a continuance, or does it more properly belong to the Chinese or East Indies, rather than to the art and science of American Dentistry?

The time to use the file depends on *the end we have in view, the age of the patient, and the physical characteristics of the teeth*. The indications for the employment of the file are varied and dissimilar. We can scarcely settle upon a fixed rule or method by which to be governed in each case. If we did, unhappy results would surely follow. Among the chief objects to be secured by the file is room for further

Dental operations. This is now far better attained by the introduction of wedges.

The arrest of caries forms no inconsiderable share of this instrument's use. For this purpose, especially in the incipient stages, recourse to the file is indispensable. It is not uncommon to hear Dentists talk quite fluently of the freedom of it on deciduous teeth. It is barely possible their class of patients at this tender age may be more tractable than falls to the lot of others less fortunate, who are unable to speak so favorably of their successes. But the composure necessary for children passing this ordeal is rarely found, and the benefits derived in this direction can not be very many. The green stain deposits on temporary and permanent teeth, which usually require removal, can be done quite as well by employing corundum points and burnishers. The most critical time for our decision when to employ the file may be dated between twelve and sixteen years. At these respective periods with regard to how much tooth substance shall be destroyed, in order to preserve the harmony and beauty of dentures, demands the exercise of caution and sound judgment. If predisposing signs of caries are manifest, affording apprehension for the future, there should be no hesitancy about the use of file; nor should there be any want of alacrity in its use when dentures are crowded by approximal surfaces of teeth overlapping each other, and no reasonable hope of further expansion of the maxillary bones, either naturally or artificially. That good results are certain to follow at these periods experience clearly demonstrates, and the logic of events can not show, to the contrary. Wherever superficial caries prevails the file is serviceable. What the chisel is in the hands of a sculptor, so is the file in the hands of a Dental Artist.

Culture and experience are reformatory in the use of this valued instrument. We can think of it in the hands of an incompetent person as a weapon of mischief, and in the hands of an intelligent practitioner as one of incomparable value.

When to exercise its freedom and when to be sparing of its use, requires observations ripened by more experience than is usually possessed by the many. In a single paper it would be difficult to even hint at the precise dates when the file should be used, and I will not attempt the task. If, however, I have awakened your minds to a higher conception of this important branch of operative Dentistry, I will achieve all I intended.



SOME REMARKS ON METAL PLATES.

Since there is a disposition to return to metal plates, I would like to make one or two inquiries and to direct attention to one or two points in relation to them.

Some years ago platina was used in Cincinnati for alloying silver plates, but seems to have been dispensed with. What was the objection? Did it render the plates brittle or impair the color, or was it expected that the small amount of platina used would prevent the plate from becoming black, and was it abandoned because it did not fulfill this (unreasonable) expectation?

It is well known that the alloy of copper in silver or gold, to the amount used in coin or less, will cause these metals to blacken under heat, in consequence of the oxidation of the small quantity of copper on the surface. This is cleaned off by acid. Pure silver and pure gold will not so tarnish under heat. Neither will gold alloyed only with silver, or silver alloyed only with gold. Nor again, if alloyed with platina, or platina and either of the other metals.

I have recently alloyed pure silver for plates, with gold and platina sufficient to give it the requisite hardness and elasticity. It makes a very clean, white plate, that works nicely. It does not blacken under heat. Will it be as liable to tarnish in the mouth as if alloyed with copper? I am aware that the tarnish in the mouth is generally due to

the sulphide of silver, but where sulphur is not present in the mouth, I think the plate will keep cleaner.

As to the cracking or splitting of metal plates through the center, as sometimes happens after wearing, a little circumstance lately seemed to afford some explanation of this. I poured some melted silver in a closed crucible, with a view of having the ingot milled out for plate. But, finding deep fissures and grooves in it, I concluded it would not answer, and requested the man who does my milling to melt it over. But, on calling for the plate, I found he had milled the piece just as it was, and, to my surprise, the milling had effectually closed up all the fissures and grooves. But, on straining and bending it, I found it disposed to crack along these places. It occurred to me that plates would be less liable to give trouble afterward if we were always careful to see that the ingots, before milling, were without cracks or flaws. What is your experience? Yours truly,

B. WOOD.

ROOT FILLING.

BY S. P. CUTLER, M. D., A. E. G., D. D. S., HOLLY SPRINGS, MISS.

I often use Richardson's Styptic Colloid rather consistent. Saturate a small wad of cotton, rolled hard, of suitable size; introduce into cavity of root, and press up and condense thoroughly; after waiting a few moments for evaporation, introduce another wad and condense as before, and continue until filled to the desired point; after waiting a few minutes for evaporation, the crown may be filled in the usual way. The advantages claimed are these: first, there is found an insoluble and impenetrable mass wholly indestructible, and should there be any animal matters at apex of root, a colloidate, styptate, tannate, or whatever it may be called, is formed, which becomes wholly unchangeable and is a non-conductor. The base is the same, minus the tannin of Rose Pearl, namely: lignin. The Colloid may be used to fill interstices around the teeth in gold plates.

Correspondence.

NASHVILLE, March 26, 1869.

PROF. TAFT—*Dear Sir*: I enclose you a communication from my friend, Professor Stout, hoping you will give it a place in the REGISTER. It shows an appreciation of our profession by Southern medical men that is gratifying. Humanity demands that Dentists should be assigned to duty in all armies and army hospitals. Their attainments in the healing art will justify it. It will be seen from this paper that the South takes the initiative (so far as I know) in this matter, as she has done in the organization of Dental Colleges and the enactment of State laws for the protection of our profession, and in the interests of humanity, in this direction.

I hope that other governments (if not all governments in the civilized world) will move toward making such appointments, and thus be found following in the footsteps of the late "so called" Confederate authorities in this particular.

Very truly,

W. H. MORGAN.

NASHVILLE, TENN., January 11, 1868.

W. H. MORGAN, M. D., D. D. S.—*Dear Sir*: Agreeably to your request, I commit the following reminiscences to writing:

During the year 1863, while Medical Director of the General Hospitals of the Confederate Army of Tennessee, I was called upon in the City of Atlanta, by an officer, to administer chloroform to his wife, who expected to have a number of teeth drawn by Dr. Bean, D. D. S., then prac-

icing Dentistry on Marietta street. Dr. B., then a stranger, excited my admiration by the dexterity and skill with which he extracted the lady's teeth, upon which I sincerely complimented him. This drew us into a protracted conversation in regard to Dentistry and Surgery in general. Dr. B. tendered his services at least one day in every week to perform operations upon the teeth of soldiers in hospitals in Atlanta, which I gladly accepted, as I found him highly intelligent and benevolently disposed. I directed the Post Surgeon, Dr. J. P. Logan, now Professor of Theory and Practice in Washington University, Baltimore, to inform the surgeons in charge of hospitals in the city of the tender made by Dr. B. Soon Dr. B.'s visits to the hospital suggested to Dr. W. F. Westmoreland, now Prof. of Surgery in the Atlanta Medical College, then Surgeon in charge of the Medical College Hospital, that Dr. B.'s skill in Mechanical Dentistry might be made use of in the treatment of gun shot fracture of the inferior maxilla.

The result of the suggestions of Dr. W. and the ingenuity of Dr. B. was the production of a splint, which might be said to have been a perfect success. This splint was described by Dr. E. N. Covey, in an early number of the first volume of the *Richmond Medical Journal*, to which I refer you. So successful was this splint in the treatment of this class of cases, that I ordered the setting apart of a ward in the Medical College Hospital, to be devoted to the treatment of fractures of the lower jaw, and thither ordered all the cases in the department for treatment. When Atlanta was evacuated, I transferred the patients in this ward to the Blind Asylum Hospital in Macon, whither Dr. Bean was also sent to continue the services begun in Atlanta. Reports of the success of the treatment were sent to Surgeon General S. P. Moore, who ordered Dr. Bean in person to Richmond, where the value of the mechanical appliance he had invented was acknowledged.

Early in the history of my Medical Directorship, I en-

couraged the detail of skilled Dentists for service in the hospitals, and before the termination of the war almost every hospital of large size had one Dentist in it, doing service upon no more than detailed soldiers pay. The value of their services had so impressed the Surgeon General, that about two months before the surrender of the Confederate armies, he sent out blank forms of returns of Dental operations performed. I do not remember that any of these were ever returned. Should I ever be able to lay my hands upon one of those blanks, I will hand it to you as worthy of preservation as a memento of the acknowledgement of the importance of Dental Surgery by the highest officer of the Medical Bureau of the Confederate States.

The Surgeon General could find no authority of law to grant higher compensation than that of hospital steward to those detailed as Dentists in the hospitals. It is with pleasure that I bear testimony to the alacrity with which Surgeon Dentists co-operated with military surgeons in the Southern service, and to the skill which many of them displayed with the meager means and materials at their command. I doubt not that had the war continued a year longer, provision would have been made for the recognition by law of the office of Dentist in the Confederate service.

If the above facts, which may be implicitly relied upon, will be of any service in inspiring the members of your profession to the maintenance of a high standard of professional education and excellence, you are at liberty to make use of them as you may see fit. Very respectfully yours,

S. H. STOUT, M. D.

Selections.



DIFFERENCE OF EXCRETION OF CARBONIC ACID AND ABSORPTION OF OXYGEN UNDER VARIOUS CIRCUMSTANCES.—Pettenkofer and Voit have presented to the Academy of Munich a communication on the difference of the excretion in the human subject, of carbonic acid and absorption of oxygen by day and night, during rest and labor. The new arrangement of their great respiratory apparatus easily admits of a division of 24 hours' investigation into two periods.

The subject for observation, a sound, strong watchmaker 28 years of age, and of 60 kilogrammes weight, entered the apparatus July 31, at 6 A. M., and remained in it till August 1, 6 A. M. The time from 6 A. M. till 6 P. M. is understood to be day, the rest night. The man took, at his regular meal hours, medium quantities of his usual food whose elementary composition had been carefully made out. He occupied himself in reading and in cleaning a little watch; went to bed at 8 P. M. and slept well till 5 A. M. His condition was perfectly normal during the investigation.

31ST JULY, 1866. DAY OF REST.

The numbers express grammes (500 grammes a pound.)

Excreted.

Period.	Carbonic Acid.	Water.	Urea.	Absorbed Oxygen.
Day,	532.9	344.5	21.7	234.6
Night,	378.6	483.5	15.5	474.3
Total,	<u>911.5</u>	<u>820.0</u>	<u>37.2</u>	<u>708.9</u>

August 3, at 6 A. M., the same man entered the apparatus again to remain in it 24 hours, but doing labor during day time. He had to turn a wheel loaded with 25 kilo. (50 lbs.), and made, with interruptions for meals and rest, as usual with laborers, 7,323 turns. At 5½ P. M., when he had done, he felt tired as after a day of hard work or after a long

march. The food was the same as on July 31, also the time of meals. He took only 600 grammes more water, which, on both days, he was allowed to drink at liberty. After supper he soon went to rest and slept till 5 A. M., when he awoke with new vigor.

3D AUGUST. DAY OF LABOR.

Period.	Excreted.			Absorbed Oxygen.
	Carbonic Acid.	Water.	Urea.	
Day,	884.6	1094.8	20.2	294.8
Night,	399.6	947.3	16.9	659.7
Total,	1284.2	2042.1	37.0	954 5

As will be seen, the excretion of carbonic acid amounted during day time to 58 per cent., during night to 42 per cent., the absorption during day time to only 33 per cent., during night to 67 per cent. The excretion of urea, as has been known heretofore, is always greater during day than during night.

On the day of rest, the excretion of urea, in both daily periods, was in exact proportion to the excretion of carbonic acid; there was excreted of both 58 per cent. during day and 42 per cent. during night. Most surprising is the antagonism in the excretion of carbonic acid and the absorption of oxygen between the two daily periods, even with all possible avoidance of muscular exertion, on July 31. This shows that mere waking and the impressions experienced by the senses in that state, have an influence on the consumption of material serving to produce the processes of life.

This antagonism is still greater when the day of labor is included into the comparison; the excretion of carbonic acid and the absorption of oxygen by day and night, are then in exactly inverse proportion. The carbonic acid was excreted at the rate of 69 per cent. during day, 31 per cent. during night; the oxygen absorbed at the rate of 31 per cent. during day, 69 per cent. during night.

For day time, while awake we therefore produce a great deal of carbonic acid at the expense of the oxygen absorbed during rest and sleep. The will finds the material prepared for its spontaneous movements.

So much oxygen as is used up in excess during one day,

so much is taken up for compensation during the following night, and as long as this takes place, the body is prepared in the morning for new labor. In comparing the total of the two days of experiment, it appears that, on the day of labor, there were 373 grammes of carbonic acid more excreted than on the day of rest, and 246 grammes of oxygen more absorbed—373 grammes of carbonic acid containing 271 grammes of oxygen, there is only a difference of 25 grammes of oxygen used in excess of the amount taken up from the air.

It is remarkable that on August 3, during labor, there was no notable increase in the absorption of oxygen over that on July 31 during rest, viz: 43 grammes. The authors conclude from this that it can not be the want of oxygen which, in bodily exertion, compels to more frequent and deeper inspirations, but that it is the want of getting rid of the surplus of carbonic acid produced, and of moderating the heat of the blood. No less remarkable is the parallelism of the excretion of carbonic acid, during night, with the absorption of oxygen during day. There is no great difference in the absorption of oxygen during day—the individual may be engaged in bodily labor or may rest; and likewise there is no noticeable difference in the excretion of carbonic acid during night—the person may, on the preceding day, have exerted himself bodily or not. It is certainly not by accident that the oxygen excreted with the carbonic acid of the night after rest, as well as after labor, approaches very nearly the amount of oxygen taken up from the air on the preceding day.

From the result of the excretion of water it appears that, after a fatiguing labor, a man not only gets momentarily into perspiration, but perspires the following night more than after a day of quiet.

The investigations show positively that the absorbed oxygen is never directly used for oxidation down to the last products of combustion, but that there are intermediate stages of oxidation by which the oxygen is retained in the body for hours before it reappears in the form of carbonic acid and water, a fact which previous experiments on marmots during winter sleeps have demonstrated.

The discovery of Voit, made six years ago on the dog, that with the greatest muscular exertion there is not more albumen decomposed than with perfect rest, has been confirmed by the experiments of July 31 and August 3, made on man. On both days, so different in regard to muscular

exertion, there was not more nitrogen excreted through the kidneys and bowels than an amount contained in the food that had been taken. There is, however, an intimate connection between the amount of the albumen of the food and the exhibition of spontaneous muscular force. Experiments of Henneberg indicate that the poorer the food in albumen, the less the stock of oxygen that can be accumulated during night, so that more oxygen has to be taken up in day time, even when the whole consumption in the 24 hours is less.—*Med. Repertory.*

DISEASES OF THE JAWS.—By THOMAS WATERMAN, M. D., Boston.—I.—*Naso-pharyngeal Polypus. Extirpation preceded by Temporary Displacement of the Superior Maxilla.* B. F. F., æt. 39. A polypus of the left nasal fossa has been steadily growing for four years. It is visible just within the anterior nares, can be felt behind the soft palate, and can be seen by raising the palate with a spatula. It is hard and firm to the touch, does not readily bleed, and is not accompanied by deafness. Its point of origin is plainly from the posterior part of the nasal fossa. The left side of the nose is distended by the polypus, giving to the face the characteristic expression accompanying similar growths.

In view of the size and obviously fibrous character of the growth, as well as its inevitable tendency, no other mode of removal than its direct excision at its point of origin seemed admissible, and this could be effected only by removing the upper jaw in a way and to an extent sufficient to expose the whole nasal fossa.

Operation—A vertical incision was made from the nostril through the upper lip, and the cheek dissected up freely from the bone. The maxillary bone was then sawed horizontally across just below the floor of the orbit, from its outer border to the nasal fossa; the intermaxillary suture was divided by bone-forceps, the mucous membrane of the hard palate having been previously incised along the median line. A broad chisel inserted into the cut made by the saw depressed the bone, fracturing it posteriorly at its connection with the palate bones. By this displacement and without any further detachment, the origin of the polypus could be easily reached; the growth, which consisted of many firm lobules,

was cut and torn away from the sphenoidal bone into the cells of which it had penetrated. The point from which it grew was then thoroughly swabbed with Squibb's liquor ferri subsulphatis, care being taken not to bring it in contact with the cut surfaces of the displaced bone. No ligatures were required. The polypus being removed, the bone was replaced and held in position by a silver wire twisted around the incisors on either side of the median section, a cork wedge was placed between the posterior molars, and the lower jaw bandaged firmly against the upper.

On the ninth day after the operation the patient was out of doors, on the eleventh an attack of erysipelas confined him to his bed again for a fortnight, but with no detriment to the progressing union of the jaw, which was perfected sufficiently to permit the removal of the wire on Oct. 18th, five weeks from the date of operation (Sept. 14th). On Oct. 28th, he was discharged from the Hospital by his own request. He had been able for ten days or a fortnight to chew meat with the teeth of the affected side, so firm was the union, and there was no deformity of the face, the trifling scar of the lip being invisible under his moustache. Two or three days before he left, a triangular piece of dead bone, about one inch long and one-third of an inch broad, came out through his nose. It appeared to be a portion of the palatal process of the superior maxilla.

Temporary resections, or osteoplastic resections, as they are termed in Europe, are characterized by the displacement of a bone still partially held in place by the soft parts; and by replacement of the bone, which has thus been rendered movable, as soon as the extirpation of the tumor is complete. The traces of the method by which the surgeon obtained access to the tumor are thus effaced.

The result of these procedures, as well as that of complete excision of the upper jaw, illustrates the extent to which operations may be successfully practiced upon the bones of the face which protect and enclose important parts, but are independent of vital organs. The particular operation under consideration is undoubtedly a valuable resource in many cases hitherto requiring a still severer mutilation, but as shown in the case next reported it does not admit of universal application. The improvements of modern dentistry are available for the diminution of much of the deformity entailed by the entire removal of the superior maxilla; an

artificial jaw of vulcanite not only restores the dental arch, but obviates the unsightly falling in of the cheek usually consequent upon this operation.

II.—*Pharyngeal Tumor. Extirpation preceded by Resection of Superior Maxilla.*—J. S. I., æt. 33. Fourteen months since a tumor of the size of a hen's egg, springing from the vicinity of the left tonsil, was removed by the ecraseur. It was thought at the time to be probably malignant, but his recovery from the operation was rapid, and on examining his throat no trace of its existence or point of implantation can now be seen. Within two months his ability to blow air through the left nostril has gradually ceased, at present it is entirely obstructed. The right nostril is also partly obstructed, and to an increasing extent. His deglutition as well as respiration is difficult. On introducing the finger behind the soft palate a growth having a broad surface of origin from the basilar process of the spheno-occipital bone fills the left half of the space between the base of the skull and the posterior nares. The finger can with difficulty be swept around the tumor on account of the small space unoccupied by it, but its attachment and the constriction of its base can readily be felt. No part of the tumor enters the nasal cavities, it can not be seen from the anterior nares, nor is there any external or visible deformity. The tumor is symmetrical in shape, bleeds on touch as it also does spontaneously or from sneezing, is firm and hard, though friable, and is not painful or sensitive. There is no enlargement of the lymphatic glands. It was not inspected by the rhinoscope. As the disease was inaccessible for thorough and complete removal, without the excision of the left superior maxillary bone, neither the division of the soft palate (*Manne*) nor the partial removal of the hard palate (*Nélaton*) offering any chance of getting at the tumor, that operation was performed Oct. 12th, by the method usually described as of Velpeau. Through the aperture thus afforded the tumor was rendered visible as well as accessible, presenting a round convex mass an inch and a half in diameter furrowed by the septum of the nostrils. It was removed by the aid of curved scissors, the bone from which it grew was cut away with the gouge, although not apparently diseased, and the surface thus denuded, as well as the soft parts adjoining, were swabbed with Squibb's liquor ferri subsulphatis. Two or three ligatures only were required.

The tumor under the microscope proved to be glandular rather than malignant. According to Dr. C. Ellis, "it was composed of rather small nuclei, with pale nucleoli somewhat larger than those usually found in glandular growths, but resembling them in other respects. A few doubtful lobules and some fragments of lobules were also seen. There were also found some fibrous tissue and a few minute blood-vessels. Very few, if any cells, and those of small size."

On the third day from the operation the stitches were removed from the incision in the cheek; on the ninth the patient sat up, and on the fourteenth he was discharged.

In February last he visited the Hospital, wearing an artificial jaw which, exclusive of the palatine arch, was not more than one inch in diameter, so completely had the cavity left by the operation filled up. The scar on the cheek was invisible beneath his whiskers, there was no falling in of the cheek, dropping of the lower eyelid, nor paralysis of the face. The tone of his voice was not noticeably nasal, and there had been no recurrence of the tumor.

III.—*Hypertrophy of the Gums. Partial Resection of Superior Maxilla*—M. A. S., a young woman of average mental capacity, æt. 27. She has never been in good health. Her mother and her nurse say that the disease of which she is the subject is not congenital, but ever since the patient herself can remember she has been asked, "What is the matter with your gums?" She has repeatedly had abscesses about the mouth, gum-boils, catarrh, and suffered most of her life from thick speech, deafness, difficult deglutition and dull pain in the jaws.

On examination the gums are seen to be hypertrophied along each side of the dental arches, not uniformly, but more prominently at some points than at others. The principal outgrowths are in front of the canine and incisor teeth in the upper jaw; in the lower jaw they occupy the place of the molar teeth on both sides. In the palatine arch of the superior maxillary bones two projecting excrescences, having their attachment anteriorly, pass backward, concealing the soft palate; in the cleft between them the uvula can be seen. On passing the finger into this cleft it can be swept around slightly, the soft palate and a small part of the hard palate not being connected with the growth. These excrescences feel quite hard and non-elastic. The portions which project

backward are somewhat movable, and can be pressed up so as to touch the palate.

At various times several teeth have been extracted, and the patient thinks that this has caused the growth to shrink somewhat, but the changes have been slight during the past eight years.

On the 26th of June all the teeth of the upper jaw were extracted, and at the same time those portions of the excrescences of the upper jaw which concealed the soft palate were sliced off. The patient was discharged on the 3d of July, and re-entered the Hospital, Oct. 7th. The disease in the meantime had remained quiescent.

Oct. 9th, the whole of the outgrowths were removed with the gouge, and the dental border of the superior maxilla sawed off. The wounds healed rapidly, and on the 21st of October the patient was discharged, with the cut surfaces granulating in a healthy manner.

The rarity of the disease has led me to report this case, the interest of which centers in the peculiarity and infrequency of such an hypertrophy, rather than in the result of the operation.

I find but three recorded cases of this disease, one by Prof. Gross, one by Mr. Pollock, and a third by Mr. Heath, occurring under the care of Mr. Erichsen, in Univ. Coll. Hosp. In the first two cases the disease was congenital, and returned to some extent after removal. A very remarkable specimen of this disease presented itself in the person of a female of feeble intellect, covered with a remarkable hairy growth, who was exhibited by a showman in this city some ten years ago, under the name of the "Bear Woman." The hypertrophy of the gums were even more conspicuous than in the recorded cases. It is a little singular that Mr. Pollock's case was characterized by an extraordinary pilous development, and the patient a subject of epilepsy. Dr. Gross's patient was a stunted and feeble-minded boy.

Under the microscope the disease presented a purely fibrous growth, without myeloid cells, distinguishing it from epulis, with which, however, it was little likely to be confounded, neither the general aspect nor the mode of its growth bearing resemblance to the distinct masses and interdental origin of that affection.

The gross appearances of hypertrophied gums resemble the disease called lampas, occurring in the horse. The latter,

however, is an *inflammation* of the gums, propagated to the bars of the roof of the mouth, and rising to a level with and even beyond the teeth. It usually subsides without treatment, or only requires slight scarifications.

IV.—*Tumor of the Lower Jaw from a misplaced Wisdom Tooth. Operation for its removal.*—A colored woman, æt. 41, ten years ago noticed an enlargement of the lower jaw on the left side, near the angle in the region usually occupied by the molar teeth. No permanent molars had ever appeared on that side, and it was the patient's conviction that there never had been any deciduous molars. The enlargement of the jaw was principally of the alveolar border, and this finally grew to such a degree as to prevent bringing the teeth together. Under these circumstances, five years ago a portion of the tumor cartilaginous in density was shaved off. A new growth gradually replaced what was removed, and there is now an enlargement of the entire bone, firm, dense, inelastic, slightly irregular in outline, sensitive on the inside to touch, and whenever hard morsels are bitten upon. It is hardly of sufficient size to be visible from the outside, but can readily be felt, and it projects inwards about to the same extent. The jaw is perhaps double its natural thickness. For the last six months the tumor has been the center of a radiating neuralgic pain constantly present, and so severe as to make the patient willing to undergo any operation likely to give her relief.

Removal of a portion of the continuity of the jaw being attended by disability and disfigurement, it was thought best to perform a temporizing operation, and excise so much of the tumor as could be from the inside of the mouth. In chiseling away the bone, which was dense and vascular, a well-formed wisdom tooth was found impacted in the jawbone in a horizontal position. As this was deemed to have been the source of all the suffering as well as to constitute the tumor, no further steps were taken towards its more thorough extirpation. The operation was followed by complete disappearance of the pain. The wound rapidly granulated, and at the end of three weeks the patient was discharged at her own request.

The crown of the tooth removed was found to be enveloped by the membranous sac originally lined with enamel pulp, which having fulfilled its function had become detached from the surface of the enamel, and now remained as a capsular

investment of that portion of the tooth. The sac thus formed was not distended with serous fluid into a "dentigerous cyst," as occasionally occurs, and an instance of which was reported in 1863, but retained its original proportions. The case must therefore be looked upon merely as one impacted misplaced tooth, and the specimen is interesting from its deep-seated position, and as exhibiting the *pathogenesis* rather than the *pathology* of dentigerous cysts, in a manner all the more satisfactory from the rarity with which on opportunity is afforded for their study.

The subject of dentigerous cysts has been treated of at length by Mr. Salter.

(The preceding cases of more than usual interest occurred in 1867, at the Massachusetts General Hospital.)



NOTES FROM L'UNION MEDICALE'.—Dr. Fort in a surgical memorandum remarks that among the numerous causes of facial neuralgia is one which authors do not notice, but which frequently occurs. This cause, almost certain to be a source of error to practitioners, is a lesion of the buccal mucous membrane, behind the molars, and produced by the evolution of a wisdom tooth. The functional disturbances brought about by this slight lesion are so intense as to lead sometimes to suspicion of more serious trouble.

M. Forget in a criticism of M. Fort's remarks, says it is very true that the evolution of wisdom teeth produces peculiar disturbances; and that the fact has already been pointed out by others. In a memoir published in 1828, on the various deviations of which the lower wisdom teeth are susceptible, Dr. Toirac, says M. Forget, reports six cases bearing on this point. In one of these cases the patient was subject to slight attacks of inflammation for a year after the left lower wisdom tooth began to appear. His cheek, not very much swollen, was extremely sensitive to the slightest pressure, while deglutition was almost impossible. The left tonsil was swollen, and the soft palate was very red. The posterior third of the crown of a wisdom tooth was found to be covered with a fleshy band, consisting of the gum, which was of a violet color, painful, and slightly ulcerated.

A worse case was reported by Dr. Desirabode, in 1851. A man of 25 years committed suicide, and it was supposed

on account of violent dental neuralgia. At the autopsy it was found that the left lower wisdom tooth was directed horizontally from before backwards, the roots being in opposition with the base of the ramus, and its crown applied to the posterior molar, upon which it exerted strong pressure. The gum was greatly swollen. No other lesion existed in the dental apparatus.

M. Forget cites a still more aggravated case. A man 26 years old had been for a long time affected with neuralgia referred to the alveoli of the molar teeth on the right side of the lower jaw. The entire ramus was tumefied, and to a considerable degree. Impeded articulation; swelling of the whole *masseter* region, so to say; hyperostosis of the coronoid process. M. Maisonneuve, having exposed the bony tumor, applied the trephine in search of the tooth. The result not being satisfactory, resection of the jaw was done, at the alveolus of the first molar, and the condyle was disarticulated. The bone having been divided by a section parallel to its axis, M. Forget found several purulent cavities which had burrowed into its substance. It was an instance of medullary osteitis of the ramus of the jaw extending to the interior of the condyle, which was hollowed out, by a little purulent cyst opening close to the articular cartilage. The severe symptoms and the structural lesions had for their point of departure the abnormal enlargement of the wisdom tooth, which was shut up in the base of the coronoid process, and rising scarcely to the height of a millimetre above the level of the alveolus which it had hollowed out for itself. The tooth was of twice the normal size, the crown of it abutting against the neck of the adjoining tooth, in such a manner that in order to take rank in the dental arch, it would have been under the necessity of displacing from below upwards the molar which opposed its upward growth. It was this obstacle which compelled it to develop in the interior of the bone.

We drew off the above cases under the impression that it might possibly help the general practitioner, now and then, out of an obscure diagnosis, to be apprized of them. Since doing so, we received the communication—published in today's issue—entitled "Disease of the Jaws," and containing an account of a case similar to some of the foregoing.

TINTING VEGETABLE TISSUES.—At a meeting of the Botanical Society of Edinburgh, Dr. W. R. McNab described the results of his recent attempts at staining tissues with various dyes. He mentioned a large series of experiments he had made by staining certain microscopical structures with acetate of mauvine and Beale's carmine solution. He showed that by means of staining, the high powers of the microscope can be used to bring out points of structure not easily demonstrated without being so treated. The process of staining does not seem to be attended with any great difficulty, and the author believes that very important results may be obtained by careful study of its action on germinating plants.

DETECTION OF MERCURY IN CASES OF POISONING.—This is a point of much importance to medical men and to professional toxicologists. The following method was recently employed by M. Buchner in a case of poisoning with corrosive sublimate. The organic remains having been disintegrated by a hot mixture of chlorate of potash and hydrochloric acid, the solution was diluted and saturated with sulphuretted hydrogen. After the lapse of some hours, the sulphide formed was collected, dissolved in aqua regia, and reduced by evaporation to a small volume. A little water being added, a bright piece of copper wire is placed in the liquid; and when mercury is present the wire becomes grey, at the latest, in two days. The copper is withdrawn, dried between folds of blotting-paper, and heated in a wide test tube. The mercury is more easily distinguished by removing the wire, and placing in the tube a drop of tincture of iodine. M. Riederer, having remarked that the sulphide of mercury which is formed by this process always contains organic matter, has recourse to dialysis. He operates in the following manner. After disorganization by chlorate of potash and hydrochloric acid, the mercury in solution is precipitated by sulphuretted hydrogen, the sulphide collected dissolved in a mixture of chlorate of potash and hydrochloric acid, and dialysed with 500 c.c. of water. At the end of five days, the water is evaporated, and the dialysis repeated. After this treatment, the solution is again saturated with sulphuretted hydrogen; the precipitate is washed with ammonia and sulphide of ammonium, then with weak nitric acid, and finally

treated afresh with hydrochloric acid and chlorate of potash. Operating upon dogs with calomel, M. Riederer has recognised that the greater part of the mercurial compound is eliminated by the excrements, and that, for the rest, more collects in the liver than in the muscles.—Paris correspondent of *Chemical News*, January 15th.

TEMPERATURE OF THE BODY IN HEALTH.—Dr. Sydney Ringer gives an abstract of a paper lately laid before the Royal Society on this subject. He gives the results of the experiments made by himself and the late A. P. Stewart. The following are the conclusions. The average maximum temperature of the day in persons under 25 years of age is $99^{\circ}\cdot1$ Fahr.; of those over 40, $98^{\circ}\cdot8$ Fahr. There occurs a diurnal variation of the temperature, the highest point of which is maintained between the hours of 9 A. M. and 6 P. M. At about the last-named hour the temperature slowly and continuously falls, till, between 11 P. M. and 1 A. M., the maximum depression is reached. At about 3 A. M. it again rises, and reaches very nearly its highest point by 9 A. M. The diurnal variation in persons under 25 amounts, on an average, to $2^{\circ}\cdot2$ Fahr.; but in persons between 40 and 50 it is very small, the average being not greater than $0^{\circ}\cdot87$ Fahr.; nay, on some days no variation whatever happens. In these elderly people the temperature still further differs from that of young persons; for in the former the diurnal fall occurs at any hour, and not, as is the case with young persons, during the hours of night. Concerning the influence of food on the temperature of the body, the authors have concluded that none of the diurnal variations are in any way caused by the food we eat. The experiments to prove this conclusion are very numerous. Some were made with the breakfast, others with the dinner and tea; but all point to the conclusion just stated. This important question is very fully discussed in the section devoted to it. By cold baths both the surface of the body and the deep parts were lowered in temperature. The temperature of the surface was in some instances reduced to 88° Fahr.; but the heat so soon returned to all parts as to show that the cold bath is of very little use as a refrigerator of the body. The cold bath produced no alteration in the time or amount of the diurnal variation. This began at the same

hour, and reached the same amount as on those days when no bath was taken. By hot-water or vapor baths the heat of the body could be raised very considerably. Thus, on some occasions, when using the general hot bath, the temperature under the tongue was noted to be between 103° and 104° Fahr.—a fever temperature. The body being heated considerably above the point at which combustion could maintain it, it was then shown with what rapidity heat may be lost, simply by radiation and evaporation. The experiments tend to prove that hot baths in no way affect the diurnal variation of the temperature.

INFLUENCE OF MEDICAMENTS ON THE HEART.—The *Proceedings of the French Society of Therapeutics* contains a paper on this point by M. Bordier, who recommends that in all therapeutical experiments the sphygmograph should be employed. By the use of this instrument, M. Bordier has been able readily to distinguish between drugs which increase and those which diminish the tension of the vessels.

ASSAYING SILVER COMPOUNDS IN THE WET WAY.—M. Stas makes the following remarks on this point: The mode of testing in the wet way in order to fix the standard of silver substances, as established by Gay-Lussac, is open, under certain conditions, to a source of error, arising from the solubility of chloride of silver in the very liquid to which its origin is due. This solution, whatever its mode of production may be, is precipitated equally by a decimal solution of silver and by chlorhydric acid. The extent to which this precipitation ensues is uncertain. At the ordinary temperature, there may be a variation from one to six thousandths in 100 c.c. of the liquid. Practically, it is quite possible, while still preserving the simplicity of the wet method, as invented by Gay-Lussac, to substitute a bromide for a chloride in precipitating silver, and thus remove absolutely those anomalies which have been observed to be attendant upon the use of a chloride or of chlorohydric acid.—*Vide Chemical News*, January 1.

HOW TO COUNT THE LINES IN NOBERT'S PLATES.—The following method is given in a late number of *Silliman's Journal of Science*. "If a cobweb micrometer is used, the micrometer eye-piece should be firmly clamped in a stand screwed to the table, so that the eye-piece is close to the end of the microscope-tube, but does not touch it—a piece of black velvet being used to complete the connection. The motion of the micrometer-screw now communicates no tremor to the microscope, and all difficulty in counting the lines seen (whether real or spurious) disappears." Still better than this is the following method: The microscope being set up in a dark room, as though to take a photograph, and the eye-piece being removed, the image of the band to be counted is received on a piece of plate glass in the plateholder, and viewed with a focussing glass, on the field lens of which a black point is marked; as the focussing glass is moved on the plate from side to side, the black point is moved from line to line. The lines may thus be counted with as much ease and precision as though they were large enough to be touched with the finger.—*Monthly Microscopical Journal*, February.

THE FIRST PHYSICIAN IN MASSACHUSETTS.—Dr. Samuel Fuller, the physician of the Mayflower, was the first disciple of Galen mentioned in the history of Massachusetts.

WESTERN NEW YORK DENTAL ASSOCIATION.

The Seventh semi-annual meeting of this Association will be held in the Court House, in the city of Rochester, commencing on Tuesday, May 4th, 1869, at ten o'clock in the forenoon, and continuing two days. It is expected that all members friendly to Dental education and improvement, will be present. There will be Clinics in Operative and Mechanical Dentistry. Demonstrations of new and improved methods of practice, and discussions of questions in Operative and Mechanical Dentistry, and in Dental Therapeutics. The Medical Profession are cordially invited to be present and join in the discussions.

REGULAR SUBJECTS FOR DISCUSSION.

Nitrous Oxyd Gas and other Anæsthetics—Their comparative merits. Essayist, A. P. Southwick.

Improvements in Operative Dentistry—Essayist, J. Requa.

Mechanical Dentistry—Essayist, M. B. Straight.

Diseases of the Gums—Essayist, B. T. Whitney.

Miscellaneous Subjects—Essayist, L. W. Bristol.

FRANK FRENCH, *President*.

W. C. BARRETT, *Secretary*.

Warsaw, March 15, 1869.

The regular meeting of the Seventh District Dental Society will be held at the same place on Tuesday, May 4th, 1869, commencing at 8 o'clock, P. M.

J. L. CLARK, *Secretary*.



NORTH IOWA DENTAL ASSOCIATION.

DUBUQUE, March 8th, 1869.

At the last annual meeting of the North Iowa Dental Association, it was *Resolved*: That the next annual meeting be held in Dubuque, on the second Tuesday in June, at 4 o'clock, P. M., and that the Executive Committee be instructed to issue a circular containing a list of subjects for discussion, so that members may come prepared to take part in the discussions. In conformity with the above resolution the committee have appointed the following list of subjects:

Alveolar Abscess—Dr. E. L. Clark, Dubuque.

Filling Pulp Cavities—Dr. A. B. Mason, Waterloo.

Pathology of Dental Decay—Dr. J. T. Abbott, Manchester.

Salivary Calculus—Dr. J. D. Russell, Vinton.

Filling Teeth—Dr. D. H. Gill, Independence.

Mechanical Dentistry—Dr. C. Poor, Dubuque.

J. S. NICHOLSON,

M. D. GOBLE,

Executive Committee.

Editorial.

“ THE HEALTH OF THE DENTIST.”

WE would call special attention to the article with the above caption published in this and the preceding number of the REGISTER, as one well worthy of consideration by every Dental practitioner. The writer has not descended as much into minutiae perhaps as some would expect, or desire in such a paper; but he has so well discussed the subject in a general way, and so fully presented principles, that detailed statements would seem to be unnecessary; and still to many something in that direction would be acceptable. Every occupation in life has its difficulties, trials and involvements; these may be either physical or mental, or both. The Dentist has a liberal share of physical toil and mental labor—a large amount of hard wearing, physical labor without invigorating exercise, ordinarily so much confined as to preclude the possibility of obtaining bodily exercise of a proper kind, or of a sufficient quantity.

He who will be faithful to his trust will have much care and anxiety. The Dentist comes in more immediate contact with—by his sympathies—and is influenced by the feelings and sufferings of his patients, than is generally supposed. The Dentist of acute sensibility will often suffer as much, and in some instances, more than his patient.

That wonderful, and hitherto unexplained influence expressed according to common acceptation in likes and dislikes, exercises a wonderfully sustaining or depressing influence, and these very conditions thus brought about operate not a little to control the physical condition. Far too little attention is given to this subject. Who that has had much experience in the practice of our profession, does not realize that contact with some persons is very depressing and exhausting, while with others there is an entire absence of such exhaustion, and with some a real invigoration.

These things have their influence in respect to health. Other things, such as constraining and fatiguing position long maintained, influencing more or less the respiratory, circulatory and digestive organs, should receive some consideration. The utter impossibility of the Dentist in his operations upon the natural teeth, receiving a pure and uncontaminated atmosphere for respiration, is patent to all. His respiratory food, is largely vitiated with carbonic acid gas, with other debris thrown out of the system of his patient; this vitiation will vary exceedingly in character, in some cases being intensely offensive and exceedingly poisonous.

He who will suggest efficient means for overcoming the difficulties we have mentioned, will be a great benefactor to our profession.

T.



COMMENCEMENT.

THE regular Annual Commencement Exercises, terminating the Twenty-third annual session of the Ohio College of Dental Surgery, were held on Wednesday evening, March 3d, in the first lecture room of the College. A large audience, consisting of members of the profession, friends of the Institution and others were present.

The exercises were commenced with prayer and reading the scriptures, by the Rev. H. D. Moore, after which an interesting address was delivered and the degrees conferred by Dr. G. W. Keely, President of the Board of Trustees. After this, an address on behalf of the Faculty, that called forth warm approval was delivered by Prof. E. Rives, to which a response was made on behalf of the senior class by C. W. Stephenson.

The senior class numbered nine members, each of whom received the honors of the college, whose names we give in this connection, viz.:

James Gamble, Indiana; J. L. Oldham, Ohio; T. O. Paine, Miss.; J. S. Cassidy, Ky.; J. F. Dennis, Ohio; C. W. Barnes, Wis.; C. W. Stephenson, Ohio; J. DeHart, Indiana; J. Kapp, Michigan.

The examinations of both Senior and Junior classes were emi-

nently satisfactory, of this more particular mention may be made hereafter. The plan of dividing the studies into two courses, and the establishment of two classes is more satisfactory the longer it is tested—alike satisfactory to the students and the teachers. So entirely successful has this method been, where tried, and so fully verified and established by the experience of other institutions, that it is a matter of some surprise that Medical and Dental schools generally do not adopt the plan. The course of instruction in the Medical and Dental schools of our country lacks system and thoroughness; the course of study is too short—effort is made to teach altogether too much in the prescribed time. It would be a matter of great gratification to see a reform in this respect.

T.



ATLAS TO THE PATHOLOGY OF THE TEETH.

In Four Parts. Arranged and explained by the late Prof. Dr. M. Heider, and Prof. Dr. C. Wedl.

Leipsic: London and New York.

Examination of the two numbers which have at present reached this country, shows the work to be one which has been much needed.

The illustrations which are drawings on stone from nature, are executed in the most beautiful manner. The contributions illustrating the formation of secondary dentine and its peculiarities are particularly interesting, and are by far the most valuable of any heretofore available to the pathologist or Dental student.

The microscopic appearance of the Dental pulp during chronic or local inflammation, as well as the resultant condition of fatty degeneration is also represented.

Besides these there are illustrated many of the anomalies, such as supernumerary teeth, union of two teeth, either through the medium of the cementum or by germination; irregularities in the position of the teeth and their repair after fracture by union. The remaining numbers are very nearly ready.

In a private letter Prof. Wedl states he is preparing an extensive text book to accompany the Atlas.

This work promises to the profession a text book devoted especially to Dental pathology, and should be in the possession of every Dentist.

T. B. H.

THE MAD RIVER DENTAL SOCIETY.

This Society meets at Oxford, Ohio, on Tuesday, May 18th. It is desirable that all the members be present; and a cordial invitation is extended to all other members of the profession who can make it *convenient to attend*.

OBITUARY.

DIED, at his residence, No. 18 West 11th Street, New York City, Friday evening, January 8th, Alfred W. Allen, in the forty-third year of his age.

"At a meeting of Dentists, held at Mott Library, January 13, 1869, the occasion being the death of Dr. A. W. Allen: Dr. J. G. Ambler was called to the chair, and Dr. W. C. Horne was appointed Secretary. Appropriate remarks were made by Drs. Ambler, Northrop, and Atkinson, and on motion of Dr. Horne, a committee of three was appointed to prepare suitable resolutions expressive of the sympathy of the meeting with the family of the deceased, and to publish them in such journals as they should deem proper. The committee appointed by the meeting consists of Drs. Ambler, Northrop, and Horne."

RESOLUTIONS.

WHEREAS, We have heard with deep regret of the sudden death of Dr. A. W. Allen, Dentist, of this city, taken away in the midst of a life of usefulness. Therefore,

Resolved, That we bear testimony to the high regard in which we held the deceased, as a professional man, and as a Christian gentleman; one who in all the walks of life was actuated by the desire to be good and to do good, and who in his honorable calling earned the esteem of his patients, and of us, his fellows, for his ability and faithfulness.

Resolved, That we tender to the widow of our departed friend, his sister, and to his beloved brother, Dr. Wm. H. Allen, the assurance of our sorrowful sympathy in their great affliction.

W. C. HORNE, *Secretary*.

THE DENTAL REGISTER.

VOL. XXIII.]

MAY, 1869.

[No. 5

Original Communications.

ADDRESS,

BY DR. A. T. KEIGHTLY,

President of the Wabash Dental Society, delivered March 24, 1869.

Permit me to return to you my sincere thanks for the honor you have conferred upon me in selecting me to preside over your deliberations. It is more than an expression of mere words to say that presiding over such a body as I see before me is an honor, of which any presiding officer might be proud, although I see around me features I have never seen before. I expect that some of you may differ with me in many respects. I can not but feel that we are not strangers; are we not practitioners of the same profession and citizens of the same country, which ought to bind us together in a common destiny? Is not their honor our honor, their glory our liberty? Does not the beneficence of the profession and government reflect the wisdom and happiness of all? Are we not all children of one mother, who opens her arms and ought to forget our follies, and, pardoning our crimes, enfolds all to her warm and loving heart. Those of the

same profession and country ought not to be strangers. Let us, then, fellow practitioners, unite with one heart and mind.

Resorting to social intercourse, and harmony and affection may abound: still one thing more; a wise and wholesome law, which should restrain men from annoying one another, and protect industry and improvements, and shall not take from the mouth of labor the bread it has earned, let it be the bright constellation which shall protect all alike. I have full faith and confidence in this species of legislation. It is successful elsewhere, why can not it be here. In Europe and throughout her provinces, legislative enactments to regulate the practice of medicine has quite driven quackery from that field, and have taught the public to hold their educated practitioners in the highest esteem. Let the law set up a standard. Let it be denominated fraud by the law of procuring money by false pretenses. Then how long would quackery be able to hold up its head.

I am oppressed by the presence in which I stand in the midst of this city, where its handsome church spires point heavenward, and where religion seeks to soften the aspirations of life; here the luxurious homes, where culture and refinement gives charms to wealth; here the genius of law and social order presides, and that spirit of contentment which makes us a free and happy people, when I recall the past and compare it with the present. We should bow with reverence before the beneficence of that government which has fostered this wonderful development, and leaves in its hand the entire regulation of all its domestic and local affairs, and if we seek the power of the State we must remember that all power not delegated nor prohibited is reserved to the people, and to them we must look to sustain us. The Dentist must unfurl the banner of his profession and plant it upon the Constitution of his State, and claim for his profession the same respect that is awarded to others through scientific attainments and education. "Then thy virtues shall truth proclaim," placing them on high in

thy sacred book, where for ages the educated Dentists will look. Then let us be ambitious to attain skill by education, still following our banner until all housed in the mansion of wisdom, to go out no more forever, and if this shall be our motto we may breast the dark storm, the red bolt defying, our wing on the wind, our eye on the sun, we will swerve not a hair, but bear onward right on. But even at this advanced and enlightened age of the world there are few things, if any, that we thoroughly understand. We see a bright flash in the storm-driven cloud and call it lightning; deep and successive peals from the artillery of the sky reverberate along the awe-stricken hills and we say that it is thunder; man is born and lives in mystery; an invisible power withdraws the vital spark; a mass of clay, he slumbers in the tomb, and crumbles to dust, and we know not how or why; give the mind nothing to do but drink in (without an effort) the beauties and the truth of nature. The ennobling pleasures of an intellectual being are the fruits of action. Let it be ours to help hasten the time when quackery shall be banished from our profession. I do not seek to avoid the difficulties that cluster around the fall of man. The day is coming when all will be made plain; then let us despise not labor, for God is its author, and a constant worker; in coming time you may expect to see him as he is; man's monument is the work he has done in this world of ours; industry is the parent of wealth in a country like this; industry will put on her garments and rest in the palace her hands and mind have built; we are here for advancement in wisdom, for we know that when the mind becomes impressed with the belief that it knows all, it ceases to advance, and perhaps the mystery of this life never will entirely be unveiled, notwithstanding the future successive revelations of science, for, even in the wisdom of God, its author is a mystery unfathomed and unlimited. Societies have been organized in every locality; they meet fraternally here, learn to value and esteem each other, and we feel that we belong to a living

profession deriving light and strength. In all your deliberations, I trust you will be actuated by the spirit of charity and fraternal sympathy, and render still more glorious the name of the Association which sprang from and can only exist in a union of hearts. You will now enter upon the duties of the Association.



DENTAL SQUIBS.

BY J. P. HOLMES, HAZLEHURST, MISS.

A very lively sympathy exists between the teeth and some other parts of the body, more intimate and extensive than would at first seem possible. Proof of this fact is frequently met with in our profession by careful attention to a proper diagnosis of all patients calling for operations. A patient coming into the office suffering with a severe pain in right superior first molar; upon examination, the tooth is found to be free from caries, tartar, or any thing that would indicate pain, yet the pain is there. Upon examining the teeth on opposite side, the first bicuspid, or molar, is found badly decayed, nerve exposed. Upon the extraction of this tooth, or destruction of its nerve, the pain ceases in the sound tooth. Here we have a sympathy existing between a decayed tooth and a sound one.

Facial neuralgia is very frequently produced and kept up by diseased teeth, vanishing upon the removal of the teeth. A diseased tooth will frequently cause severe pain in the face, neck, ear, eye, or throat, because all these parts are supplied by nerves derived from the same sources, or are more or less intimately connected. I have known a severe case of pleurodynia kept up by a diseased tooth until its removal, other remedies failing. Enlargement of the lymphatic ganglions of the neck, ulcers of the chin, epilepsy, hysteria, dyspepsia, loss of sight, nervousness, sick head-

ache, and various other affections, sometimes of a very obstinate and distressing character, are caused by diseased teeth. Dysmenorrhœa is cured sometimes by the removal of diseased teeth. Have had two practical cases of this kind recently.

Chills cured by the extraction of teeth.—A young lady called to have two teeth extracted—superior central incisors; had been broken off by a hook from a cow some four or five years since; administered gas and removed them without much force or trouble; patient left for her home a mile from town; on arriving there active hemorrhage set in, lasting five hours; she become frightened and sent for me; on arriving at her house found her in bed, very pale and much frightened; had bled nearly a quart of dark venous blood; washed sockets with tepid water and packed them with cotton saturated with Monsel's per-sulphate of iron, which checked the hemorrhage in a few moments; patient had been having chills for months and could not break them; has had no chill since; health much improved.

Sight restored by extraction of two teeth.—Mr. L., thirty years of age, came into my office three months since to have his teeth examined; said his right eye had been diseased for ten years; could not see out of it; pained him a great deal; on examination found first and second bicuspid on right side of superior maxillary (side that the eye was effected) decayed to the gums and both abscessed; informed him that these teeth ought to be removed, as I thought they were doing the mischief; he consented; extracted them and applied aconite and chloroform to the sockets, as they pained him very much; saw him a week since entirely well and sight restored.

Supernumerary teeth.—Mr. Wm. Fugate, a young man twenty-five years of age, called a few days since to have two teeth removed; on examination found a magnificent set of thirty-four permanent teeth, thirty-two in arch, regular, sound and in fine condition. Just back of and between the central and lateral incisors, were two supernumerary per-

manent teeth, erupted four years since; these teeth were inserted in palate bone, the crowns somewhat round and resembling the cuspid teeth; roots more curved.

Extraction of teeth ordered by a physician for Dysmenorrhœa.—Effects of Gas.—A lady, thirty years of age, was sent to me by her family physician, with orders to have all of her decayed teeth extracted; on examination found her mouth full of diseased teeth; gave her the gas three times, giving more than usual; could only extract two at each administration, as she would push back in the chair with great force and rally in a few seconds, the gas seeming to have little or no effect; after extracting six teeth, badly diseased, one tooth having three distinct sacks on the roots, I discharged her, with instructions to call again in a few days and I would extract the rest. The gas had less effect on her than any patient I ever had. I attributed it to great nervous excitement and over-charged vessels with blood from arrest of menses. Will write you again about this patient. I am very much in the dark on this subject, but receive a good deal of light and instruction from the interesting pages of the DENTAL REGISTER and *Cosmos*, two companions that I am very much attached to, and from which I derive a great deal of useful knowledge, as well as pleasure.



MANIPULATING FOIL.

BY H. SCOTT.

Unquestionably we mutually all gain by communicating specifically our various methods of doing things, and I shall hold that it is incumbent on every Dentist to "tell his experience," for such a course can not result otherwise than each one receiving more, in the aggregate, than he contributes. And yet we often become confused in reading this or that man's way of working, because it is foreign to our

experiences. I have seen statements of modes of operating that I thought I could not master to save my life, and believed that no one else could. Still, we measure men's abilities in a matter we have some understanding of, by the way they talk and write, and we learn thereby. We all aim at excellence, I suppose, or, at least, we should do so in our profession or our specialties, and undoubtedly the road to it is untiring diligence and free interchange of thought and experience. General principles are of course the same.

I have failed utterly in attempting to use gold foil in the way that some have said had proved highly successful in their hands. Others may fail, perhaps, in attempting to follow my method. But the way I manage my foil is satisfactory to me, and I can make better fillings by my method than I can by any others that I have tried. I am not afraid of spoiling my foil by touching it with my hands. On the contrary, I manipulate entirely with my fingers; but, in doing so, I keep them comparatively dry by drawing them briskly over my gown, or some part of my garments, every few seconds while handling the foil, which removes the secretions as fast as they come upon the surface. My pellets, balls and wedges being prepared, and my cavity dried out with bibulous paper, (blue) I pass them through my spirit flame successively as I carry them to the cavity. In doing this I use plugging forceps, and if my fingers have been kept dry, as above, there is no appearance of smoke from the pellets as they pass out of the flame. I find my gold thus managed adhering as the pellets successively touch each other, and that it malleets down into a solid mass; at least, as much so as gold foil ever does under any circumstances, and will take as fine a finish as one chooses to put upon it. This is my present method of using gold foil, after having tried in former years various others. Those who are pleasing themselves with the quality of their fillings conducted by different means, should not abandon them for mine, though I suggest that any who may not be satisfied with the method they have

been trying, should use the foil as I do, and then determine upon its merits. I use mostly No. 6 soft foils. I use blue tissue paper prepared, for drying, because its color determines when the cavity is thoroughly dry.

I have other experiences I wish to speak of. Where I find great difficulty in controlling the saliva, when about to fill a lower tooth, even with my practice once before given in the REGISTER, (March, 1868) I disregard the whole thing and fill the cavity "submarine." In these cases I manipulate the foil pretty solidly with the fingers, in as large balls and wedges as I can introduce, and then mallet them home as firmly as gold will admit of, always having my cavities of the dove-tail shape, and putting in the last wedge into a corner that is prepared also of the dove-tail shape. Such work, though done under water, if well done will no more give way than a good brick arch can fall. And further, I can cut away the extra gold and finish as perfectly as work done in the dry. I don't say the gold adheres, but I do say that such fillings can be made to answer all the requirements, and we want nothing more. I made such fillings more than twenty years ago, that are as good now as work done in the dry at the same time. Indeed, most of them are entirely perfect.



TO PREVENT VULCANIZERS FROM LEAKING STEAM.

BY J. G. WILLIS, M. D.

Nearly every person who uses a vulcanizer, in which the thermometer communicates directly with the steam chamber, is more or less annoyed by the escape of steam around the thermometer. This requires the frequent removal of the packing. The cause of this trouble is the great space be-

tween the stem of the thermometer and the walls of the tube which contains it, by reason of which at every tightening of the point, by screwing together the parts, the packing is forced into this space, and not enough is retained between the shoulders of the parts to keep the joint steam tight.

Having devised a plan by which this difficulty and annoyance is entirely obviated, I take this method of laying it before the profession, that any who choose may avail themselves of its advantages. In order to be clear in directions, I will designate that portion of the machine which contains the stem of the thermometer, the case, and that portion which contains the bulb of the same, the tube, as it is open at both ends.

First, with a V shaped drill bevel the inner edge of the tube nearly to the outer edge, and in depth about one-eighth of an inch; then file a circular piece of brass to fit the bevel as perfectly as possible; this, when in place, must be on a level with the top of the tube; drill a hole through the center of the brass one-sixteenth of an inch larger than the stem of the thermometer, and it is done.

To apply, invert the case and introduce as much packing as is required, and on the top of the packing place the brass, inverted; now insert the thermometer, and as you place the case over the tube, the beveled piece of brass falls into the countersink in the tube, and furnishes a larger surface for the packing to press upon, and the space of one-thirty-second part of an inch between the stem and brass, although too small for the escape of the packing, is sufficiently large to secure a perfectly tight joint.

I beveled my tube with a common enamel chisel, and completed the whole thing in an hour, and now have the satisfaction of knowing that the escape of steam is impossible, and that portion of my machine will make no further trouble, I think, for years.

CHLORO-NITROUS OXIDE.

By H. L. SAGE.

I saw an article in the February number of the REGISTER, under the above heading, being a paper read at the Michigan Dental Association, in which the writer calls attention to the discovery of "a new anæsthetic agent," prepared by "mixing with nitrous oxyd a certain proportion of the vapor of chloroform." He speaks of "six months exclusive use" of this agent by the discoverer, H. W. P. Barker. Permit me to call attention to the fact that I made use of this combination at least one year ago. In this case I mixed with six gallons of nitrous oxyd about three drops of chloroform, and administered a portion of it to a strong, robust man. It induced anæsthesia in one quarter of the usual time—almost immediately—the effect being so rapid that it startled me. The results were not pleasant, nausea and prostration being produced in such a degree that I abandoned its use.

RIMMING PLATES.

BY J. P. H. BROWN, AUGUSTA, GA.

As there are many cases where a rim fitted nicely over the edges of the gums of single teeth will not only add to the beauty and finish of the work, but also to its strength, it is very necessary to know the best way of doing it. In block-work I regard such rim to be indispensable.

In giving my method of rimming plates I claim no originality, for others may use the same. It may not be the *quickest* way, but when all the manipulations are done with tact and skill, the results are every thing that can be desired. The quickest and easiest way is not always the best. The process, whether single or complex, which produces the best

work should always be the one chosen. After grinding up the teeth so as to fit accurately the plate, and arranging them on wax just as you want them to set in the mouth, see that the tops of the gums are even and have sufficient bevel to be grasped by the rim. The tops of some may have to be ground off at an angle, say of forty-five degrees; others may not need any grinding. If there should be any little space at any point between the tops of the gums and plate, fill it up nicely and smoothly with wax. Now take some plaster and pour it on a piece of paper and spread to the depth of half an inch. Then take the plate and teeth off of the articulating model and imbed the teeth, cutting surfaces down into the plaster until it comes to within an eighth of an inch of the part of the gum to be covered by the rim. After the plaster has hardened it should be nicely trimmed around the gums, and a thin coat of shellac varnish applied. Place a rim of wax around on the inner side of the plate, and let it extend from a half inch to an inch above the edge of the plate. Fit a piece of thin tin plate to the plaster, gums and plate in front at the median line, so as to divide the mould for the plaster impression of the parts to be covered by the rim into two sections. Oil the plaster, gums, plate and wax, and then pour plaster on to one of the sections. All air bubbles must be expelled, for if any get into the face of the model it will be worthless. The plaster should be worked as thick as possible, and the outer edge of the model squared up with the spatula. Pour the other section in the same manner. After the plaster is hard remove carefully each section, and trim so that there will be no difficulty in removing from the sand. Make the dies of zinc and lead, and swage the rim of plate No. 28 or 29 of the American gauge, or of No. 4 or 5 of the English. Remove the plate from the wax by warming it, and let the teeth remain in the plaster. Trim some of the wax away so that the plate can be replaced to the teeth and removed without any difficulty. Put the plate to its place on the teeth, and adjust one of the

halves of the swaged rim to the gums and plate. See that the rim fits the margin of the plate and covers the tips of the gums from a sixteenth to an eighth of an inch. Confine the rim to its position by wire clamps. Remove the plate to a piece of charcoal and solder. Treat the other half of rim the same way. Both sections of rim can be soldered on in a few minutes. If any little vacancies should be at any point between the rim and plate, fill with gold foil and then solder. Use no more solder than is necessary. No one but a bungling operator will run his solder into heaps nor all over his plate. After the teeth are soldered on, the rim can be burnished down so closely to the gums that it will be impossible to get the point of the smallest instrument between. If the plate is of twenty-one or twenty-two carats it will bear any number of heatings without springing a particle.

This way or that way of performing an operation does not matter so much, only so the results are of the *highest order*. Some of the most brilliant chemical experiments ever performed by Davy, Wollaston, or Faraday, were done by but little and simple apparatus. Where these careful men succeeded, thousands of others could not repeat the experiments with the same results with apparatus of the most approved and costly construction. You can teach a pupil the principles of drawing and painting and the laws of perspective; give him all the necessary materials, but unless he has the requisite brain development you will fail to make him an artist. A man may learn the principles of Dentistry as a science, but unless he has the mental organization necessary to enable him to apply "this science" to practice, all the private instruction, Dental lectures and itinerant practice can not make him a Dentist.

Proceedings of Societies.

REPORT OF DISCUSSIONS AT THE TWENTY-FOURTH ANNUAL MEETING OF THE MISSISSIPPI VALLEY DENTAL ASSOCIATION, MARCH 4, 5 AND 6, 1868.

The first subject presented for consideration was "What are the best methods of controlling flow of saliva during the operation of filling teeth?"

Dr. GODDARD remarked that inability to control the saliva in the mouths of his patients, he had found one of his greatest difficulties in filling teeth. Has found it impossible in many cases to keep the mouth dry by any of the ordinary methods. He had been for a few days using the rubber dam, in connection with the saliva pump, and thinks it has, in some cases, advantages over any other method.

Dr. JAMES TAYLOR finds very great difficulty in keeping the mouth dry while operating; it sometimes seems as though the saliva flows in great quantity through all the ducts, into the mouth, and to prevent flooding is next to impossible. The breath is oftentimes so loaded as to completely moisten the filling when it is permitted to come in contact with it.

Dr. BERRY thinks by heating and keeping the gold slightly warmer than the mouth, during the introduction of the filling, the moisture from the breath will be obviated; employs the ordinary means for the exclusion of the saliva.

Dr. McCLELLAND has discarded the use of saliva pumps thinks they are useless for keeping away saliva; relies upon a good supply of napkins, properly employed, and in connection with them uses "Hawes Tongue Holder;" especially

is this arrangement applicable for the inferior molars of the left side, and in addition to this, while operating, inclines the head of the patient to the right; for the inferior molars of the right side, holds the napkins in proper position about the teeth with the fingers, inclining the head to the left side; removes the saliva often from the mouth, by wiping out with the napkin; has found that sensitiveness of the dentine increases the flow of the saliva; hence, endeavors to obtund that before filling, and for this purpose usually employs creosote; success depends very much upon having all things in readiness, and a good assistant is almost invaluable.

Dr. TAYLOR expressed a desire to know more about the rubber dam; has used the tongue holder twenty-five years; much depends upon the ability of the patient to retain the instrument in its proper position, so it will best secure the parts in the desired position, and not impede the work of the operator.

Dr. TAFT: In deciding upon the method of controlling the saliva in the mouth during an operation, there are several conditions and circumstances that must be taken into account, such as the location of the point to be operated upon, the condition of the dentine and the tooth as a whole, the extent of the decay, the amount of saliva, and its character, the point from which it most freely flows, and the ability of the patient to keep the parts quiet.

The variations attending these conditions indicates to us very clearly that no single method will in all cases, or even in many cases, accomplish the desired object. Sometimes a small amount of saliva, owing to its peculiar condition, will be far more difficult to control than a far greater quantity of a different character. A constant movement of the muscles of the mouth and throat add very greatly to the difficulty of excluding saliva from an operation. Has used almost every method and appliance that has ever been suggested or brought to the notice of the profession, and finds something, and usually much, to commend in almost every

one of them ; uses napkins much in the manner suggested by Dr. McClelland, more than any other single appliance, but very frequently, and usually quite efficiently, employs bibulous and blotting paper, the rubber dam, and two or three forms of saliva pumps, together with the various tongue compressors ; but least efficient of any of these, is the old fashioned tongue-holder or speculum, held by the patient, for there is not more than one patient in fifty that will retain them properly in place, but when a little fatigued will relax the hold and then all is lost ; regards the rubber dam as a very great acquisition, and one by which some cases that have hitherto proved almost uncontrollable, are by it completely manageable. To Dr. Barnum is due the lasting obligation of the profession for the introduction of this material.

Dr. MORGAN has used and relied very much upon blotting paper and napkins of fine linen, about eight inches square ; folds into the proper shape and packs them in about the teeth, so as to make pressure upon the mouth of the salivary ducts ; never permits the instrument to touch the lips.

Dr. HAYS described a little appliance in the form of little round pads, made of porous clay and properly biscuited, for closing the mouths of salivary ducts ; they are made plano convex and double convex, from one-half to three-fourths of an inch in diameter ; others are made crescent shape. The form and size should be governed by the locality they are to occupy ; they are the invention of Dr. Southwick, of Buffalo.

Prof. CUTLER read an essay on development of the teeth, in which the idea was advanced that the roots of the teeth, and especially the molars, are not fully formed till a period much later than is generally supposed ; that at the time the crowns of these teeth seem to be fully developed, the roots have very commonly large cone-shaped openings at their ends, in which, the destruction of the pulps becomes a serious consideration. The removal of pulps from teeth, the roots

of which are in this condition, will be liable to occasion very serious injury to the living parts beyond. The careless or inexperienced operator is very liable to pass entirely through the canals. The roots of the teeth are not in many cases completely developed before the age of eighteen or twenty years.

Dr. WATT feels a very great interest in this subject; he would suggest that there is very great variation in different persons in the period of the complete development of the teeth. He has extracted the first permanent molars at the age of six years, and found the roots perfectly formed, and others at ten years imperfect. This difference depends upon variation of the nutritive function and the developing power. Great care should always be exercised in applying arsenious acid in young persons. He referred to a case in which a girl had an incisor broken off, and upon the root wore a pivot tooth nine years, after which the tooth was removed, and the root found incomplete at its end, never having been completely formed, but it has sustained the artificial tooth well during the time, demonstrating the ability and endurance of even these imperfectly formed roots. There would not be as much liability to injury in the use of the mallet for filling such teeth, as by the clumsy, awkward hand pressure that is so frequently employed. He discussed at some length the theory of mallet pressure, as compared with the hand pressure.

Dr. CUTLER: It is almost impossible to fill the canals of roots before their completion, without doing great violence to the living parts beyond. Usually the roots of the teeth are not perfect till the tenth year.

Dr. OLDHAM differs from both Drs. Cutler and Watt; he believes that the canals of imperfectly formed roots, even though they be somewhat conical as described, may be well filled and better with the mallet than by any other method. He claims that greater precision in the introduction and consolidation of gold is obtained by the use of the mallet.

Dr. H. A. SMITH read an essay upon the action of arsenious acid, when applied to the pulps of the teeth.

Dr. MORGAN, in remarks upon the essay, says that arsenious acid will induce sloughing of soft tissues.

Dr. WATT has been accustomed to use arsenious acid for producing sloughing.

Dr. TAFT: This result is not produced without the agent being taken into the tissue thus affected.

Dr. H. A. SMITH suggests that gentlemen may be mistaken in their preconceived opinions.

Dr. J. TAYLOR: How is there sensitiveness if their nerve is dead or the circulation suspended? He prefers the plan of leaving the teeth for two or three weeks after the application of arsenic before filling, that the pulp may slough away and all sensitiveness be destroyed.

Dr. CUTLER has had extensive experience in the use of arsenic in medical practice. It will produce extensive sloughing. It is taken into the system and breaks down the red globules of the blood, combining with the iron, thus depriving the blood, so far as this process is accomplished, of one of its necessary elements. The argument to sustain this theory was in part based upon the fact that the hydrated sesqui oxide of iron, combines with and precipitates arsenic with such facility as to constitute the best known antidote, to its poisonous influence.

I have studied the nature and action of arsenious acid with a considerable degree of thoroughness. Do not think that any of the toxicologists have given the correct theory of the action of arsenic. It produces no change in the general structure of the tooth pulp, when applied for its devitalization, but the red blood corpuscles are broken up and destroyed; this is accomplished by the combination of the arsenic with the iron in the blood. The coloring matter of the blood consists in part, at least, of a sesqui-oxide of iron and the arsenic uniting with it forms an arsenuret of iron. It may also have a catalytic influence upon some of the

other constituents of the blood. Arsenic is far more liable to be taken up by dentine before the teeth have arrived at mature development, and mischief is far more liable to occur. We know but little of the definite action of poisons.

Dr. McCLELLAND asks if there is not consequent upon the devitalization and decomposition of tooth pulp, a gas formed that acts as an irritant upon the living parts.

Dr. CUTLER replied: There will not be gas formed to any appreciable extent, though by the breaking down of the red corpuscles carbonic acid gas may be formed to a slight extent. When the vessels at the point of a root are cut off, the blood that flowed into the pulp will be diverted to some other channel.

Dr. MORGAN is very positive that arsenic by osmotic action does pass through the dentine. The enamel is organic structure and possesses vitality, as is shown by the fact that enamel not sustained by living dentine becomes friable and easily broken down.

Dr. TAFT remarked that in many cases in which arsenic is used for devitalization of the pulps of the teeth the periosteum becomes more or less affected. This may occur either from the direct influence of the agent upon the tissue, or in part by this and in part by the congestion consequent upon the sudden stoppage of the blood in its natural course through the vessels of the pulp, and its diversion into other channels, or the difficulty may occur entirely from this latter condition. The blood usually, perhaps upon being turned back, finds its way into the veins by anastomosis, but it will sometimes fail in this and then it passes into the cellular tissue through the ruptured or enfeebled walls of the vessels, when irritation ensues.

SECOND DAY—EVENING SESSION.

(By special request the first hour of the session was occupied by Dr. Watt, in the delivery of a lecture upon nitrous oxide as an anæsthetic, a synopsis of which we endeavor to give in this connection.—REP.)

MR. PRESIDENT AND GENTLEMEN: As most of you are more or less familiar with my recent personal history, I make no apology for appearing before this, the oldest Dental Association in the world, without a written communication.

In compliance with request, I propose a converse, for a while, on the preparation and use of protoxyd of nitrogen, or nitrous oxyd, as an anæsthetic. This is a subject of great practical importance to the Dental profession, inasmuch as we are called upon to inflict pain more frequently than general surgeons, and our operations, though fearfully painful, are of such brief duration that it would be almost warrantable to conclude that this anæsthetic was designed for our special use.

Protoxyd of nitrogen, as its name imports, is composed of one equivalent of nitrogen, united with one of oxygen. The proportions, numerically, are about 14 of the former, and 16 of the latter. It will be noticed that these are the chief elements which constitute our atmosphere, the substance under consideration being about twice as rich in oxygen as atmospheric air; and here these elements are chemically combined, while in the atmosphere they are mechanically mixed.

Nitrous oxyd is a gas about fifty per cent heavier than atmospheric air, is colorless, and has a peculiar sweetish taste and odor. Its volume is the same as that of the nitrogen it contains; hence, by loss of oxygen from any cause, it is not reduced in bulk. This is practically worthy of notice. In this gas the elements are held together by a very feeble affinity. Its oxygen is, therefore, very easily separated from it. On this principle it supports combustion almost as readily and well as free oxygen. The oxygen is thus furnished in its nascent state, and is as active as ozone. It is quite probable that it supports respiration on the same principle. There is a popular error among writers that it may be well to notice. It is generally stated about thus:

“Sir Humphrey Davy discovered * * * that it supports respiration for a few minutes. He breathed 9 quarts of it, contained in a silk bag, for 3 minutes, and 12 quarts for rather more than 4; but no quantity could enable him to bear the privation of atmospheric air for a longer period.” Now does any one suppose that 12 quarts of *atmospheric air* used in the same way would support respiration more than 4 minutes? If he does, let him try it; and if it fails him, let him be consistent by writing and printing that “no quantity” of atmospheric air will sustain respiration for a longer period. The ox bladder and silk bag experiments of the older chemists amount to little in determining the support to respiration derivable from this gas. They were mainly ascertaining how long a man can breathe his own breath.

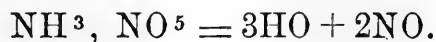
It must not be inferred that this protoxyd is a substitute for atmospheric air, far less that it is a better supporter of respiration, as I have often heard claimed by its over-zealous friends. But that it is capable of supporting respiration far beyond what is indicated by the experiments of Davy is now clearly demonstrated by experiment. I have known it to be breathed for an hour, with less than twenty inspirations of atmospheric air during the time. I have many times seen it breathed twenty minutes, without the admission of any air, the quiet state of the patients, their natural complexions, and their after statements proving that they suffered no inconvenience at the time; and, when the gas is pure and properly administered, even for these long periods, the condition of the patient is as unlike asphyxia as can be well imagined. These experiments were not made with regular patients, but were legitimately conducted, from a feeling that we must know far more about this agent, or abandon its use.

This gas is usually obtained by decomposing nitrate of ammonia by heat. It may be preserved over water, as there will be but little waste after this liquid is once saturated.

Several precautions are to be observed in its preparation. It is much easier to prepare pure ether or chloroform than pure nitrous oxyd. It is sometimes difficult to obtain pure nitrate of ammonia. Here are two specimens, neither fit to be used as ordinarily directed. The gas prepared from this, by the ordinary process, produces a sense of suffocation, and tonic spasm of the muscles of the throat, and sometimes of the respiratory muscles, these symptoms continuing with greater or less severity, in some cases for several days. The salt contains a soluble chloride. The other specimen which I show you does not contain a chloride, but when ordinarily used, yields a gas but little less suffocating than the former. The muscular spasm of the throat is not so continuous as in the former case, but quite as prolonged. Of course the experiments with such agents have been but few. The latter specimen yields pure nitrous oxyd, after about one-fourth of it has been evaporated. (It is less difficult to obtain the pure salt now.—W)

But the use of a pure salt, by no means insures a pure gas. To obtain such a result, several conditions are to be observed. The nitrate is to be decomposed at the proper temperature; and this implies some reliable method of *regulating* the heat. In short, the apparatus should be automatic; for no one can regulate the heat properly on the basis of observation.

The thing to be aimed at is to decompose the nitrate so as to obtain only protoxyd of nitrogen and water, as indicated in this equation :



It is difficult, and perhaps impracticable, to obtain exactly this result, as below the proper temperature the order of decomposition is not wholly as indicated by the equation, and of course, in reaching the proper degree of heat, this lower temperature has to be passed. For this reason, the heat should be rapidly raised from the melting point of the salt to the degree of proper decomposition.

By decomposing the nitrate at about 470° Fahrenheit, I have obtained the most satisfactory results; and any temperature between 465° and 480° will afford good gas, if proper care is taken in other respects.

By running the heat too high, a part of the nitrate is decomposed so as to yield binoyd of nitrogen, sometimes called nitric oxyd, as indicated thus :



As nitrous oxyd is formed at the same time, it and the free hydrogen form an explosive mixture, and a series of infinitesimal explosions result, agitating the liquid differently from ebullition or effervescence. This condition is readily detected by the practiced eye.

The nitric oxyd, thus formed, is a very poisonous gas, and is very rapidly converted into nitrous acid, which as rapidly passes into nitric acid, by increase of oxydation. This is a much lighter gas than nitrous oxyd, and is far less soluble in water; consequently contrary to the popular opinion and the statements of some writers on the subject, it can not be removed from nitrous oxyd by washing, or passing the mixture through water. A mixture of these two gases becomes more and more unfit for use, by repeated and prolonged washings.

In administering the nitrous oxyd, the patient must not be smothered. This is an important, yet much neglected point, in the use of any anæsthetic. The apparatus ought to be so arranged that respiration is not in the least obstructed. This inhaler is defective. The expiration is considerably retarded, which is a very serious fault. A tube of sufficient diameter, with proper valves, without wings or flanges is the best "inhaler." The patient should be seated in a *very* comfortable position; for with a few inhalations of the gas sensation is so much exalted that trivial inconveniences become painful and very annoying. When the patient has taken the inhaler into his mouth, hold open the valve, and have him

make a few full inhalations of air, for the purpose of removing *all* carbonic acid from the air cells. This is practically of very great importance. The first full inspiration of nitrous oxyd seems almost to overwhelm the lungs. The rush of carbonic acid into the air cells is very great. Hence it is nearly always best, after a single inspiration, to open the valve, and let the patient take one or two breaths of air; and through the whole process of administration, whenever, by flushed features or otherwise, there is the least indication of suffocation, admit air freely till relief is afforded. After a little time the rush of carbonic acid abates, and the admission of air is not called for. There should be nothing like forcing the patient to take the gas, such as holding the lips, etc.; for when the gas is pure he *wants to take it*. And when pure and properly administered, it produces neither delirium nor darkening of the complexion. I have sometimes used it regularly for months, without seeing either of these symptoms. Both are caused by the presence of carbonic acid in the air-cells, and not by nitrous oxyd.

Respiration is rendered much slower by the inhalation of nitrous oxyd, being often reduced to six or seven, and even to three or four inspirations to the minute, and this usually without any sense of suffocation or approaching asphyxia. The retarded respiration sometimes continues a considerable time after the operation, causing the patient to feel a sense of prostration; but this is not commonly the case. When a second operation is necessary, it is best to wait till respiration has been re-established.

FILLING TEETH.

Dr. TAFT suggested that perhaps one of the most common faults in practice in filling teeth, is a want of thoroughness in manipulation, too many points are passed over without sufficient attention. How often does the thought occur to all of us, "Oh, well that will do," and especially when we

are hurried and fatigued. Failure will often enough ensue, when the highest skill exercises the greatest care. Let all things be done in the most thorough manner possible. I would not intimate that there is but one good way or efficient method of performing this operation in our practice, there will be differences here, as well as everywhere else. I will for a moment consider the operation of filling proximal cavities of the teeth, and will direct attention to but one feature of this, viz.: the separation. This in the molars and bicuspidis is usually effected by cutting and filing from the proximal surfaces in which the cavity is situated, till a V shaped space is formed, cutting in this manner till ample space is secured through which to operate, and firm borders of the lateral walls obtained, and then filling the cavity only flush with its borders.

While in some cases this perhaps is the best method, there are others in which we think a different one preferable; for instance, when there are but small or medium sized cavities, the lateral walls thick and firm; it is better to make only separation enough between the teeth to make a good finish upon the proximal surface of the filling; space enough to receive a thin finishing file and tape will be sufficient, and this in the majority of cases, can be obtained by wedging. An entrance into the cavity for the introduction of the filling, should be made by cutting down through the masticating surface of the tooth, into the decayed cavity. This cutting should usually be made as far toward the center of the crown as the decay extends.

By this method the natural form of the tooth is restored, and the ability to masticate is not impaired, and the difficulties arising from a large V shaped space are obviated, and the facility of performing an operation in this manner is equal to, if not greater than other methods.

Dr. DRIGGS, It is one thing to know how to perform, but quite another to do it. I still adhere to the old method of

preparing cavities, have selected the old masters as my copies. There is a disposition in the profession to avoid extremes—to refuse to operate upon teeth that can not be saved with certainty. My practice is to cut down all thin, friable walls or edges, except perhaps upon the incisors; in the molars always cut away the thin edges or walls, and do not make much protrusion of the gold; do not attempt to make contour fillings. I do not believe they will ultimately prove permanent; in a small proximal cavity of a molar, do not think the best method of effecting an entrance into the cavity is by cutting down from the masticating surface of the crown, but obtain an entrance by a separation of the teeth, making as little cutting of the tooth as possible, to secure a good entrance into the cavity. I am in favor of conservative filling; do not extract all badly decayed teeth, nor do I always cut down a large portion of the tooth; but aim to have strong walls, and fill flush with their edges, and in favorable cases, build out somewhat so as to make a convex surface to the filling.

Dr. H. A. SMITH, I regard the principles announced by Dr. Driggs, in the main correct; there are, however, various methods of making very good operations.

I desire further information in regard to the new preparations of gold for filling. I am somewhat in doubt as to the advantages claimed for them; and shall be glad to know that they are all right.

Dr. GODDARD, I have used about two ounces of "Morgan's Plastic Gold," and chiefly in connection with soft foil; but am not yet fully satisfied with the tests I have made. I fear from some things I have seen, that it may fail; but, as with many other things, so with this, time will decide.

About eighteen months ago, I operated upon a superior central incisor, a large cavity upon its anterior surface; after properly forming the cavity, I fitted into it as neatly as I could a piece of natural tooth; this I set in the cavity

with os-artificial, it is yet worn without any apparent change. Can not operations of this kind be frequently made?

Dr. WATT, I have in three instances performed operations in the same manner as described by Dr. Goddard; all were very satisfactory.

Dr. DECAMP, This is a subject of great importance to all, and especially to the younger members of the profession.

Gold is doubtless the best material known for filling teeth; but there may be a diversity of opinion as to the form or condition. I have used it in every form in which it has been presented; foil, crystal, sponge and shred. Some of these, I have observed, discolor after being in use for a time. I have attained better success, made more reliable fillings with soft gold foil, than with anything else. In superficial and difficult cavities, I usually prefer adhesive gold. The form, size, and location of the cavity to be filled, will to some extent determine the kind of gold; I fill extensively with blocks or cylinders.

Dr. WATT, There is a great want of uniformity in all the preparations of gold. This arises from two sources, viz.: the mechanical and chemical manipulation.

Much of our failure to secure good results with new materials and new forms, arises from a want of the proper knowledge to direct their use. Gold perfectly crystalized is, I think, the best form in which it has yet been used. The production of this requires a high degree of chemical knowledge. Crystal gold can not be made as cheaply as foil. Far greater rapidity of execution in filling is attained with crystal gold than with gold foil.

Dr. ARRINGTON, I am not exclusive in my practice, nor in my teaching. I used "Lamb's Gold" for a time, I then thought it good; but have found several samples of it very imperfect, which illustrates what Prof. Watt has said upon that point. I regard "Watt's Sponge Gold" as better than

any kindred preparation that I have used; but I have my fears that it sometimes clogs, and does not conform to all inequalities. I use perhaps non-adhesive foil more than any thing else; use nothing for filling but gold and os-artificial. Have put in these fillings in the manner described by Dr. Goddard; I used porcelain, but I now think the natural tooth would be better. I have always condemned the use of amalgam for filling teeth, because it is not reliable, and because of its pernicious influence upon the profession. I do not use "Hill's Stopping," because "os-artificial" is better. In many cases the latter makes excellent fillings, and under no circumstances can it result in injury.

Dr. G. W. FIELD, By permission, I would ask, if there is any efficient treatment for Dental exostosis, and if so, what it is?

Dr. WATT, This affection is easily treated; it is simply a hypertrophy of the cementum. By this growth pressure is made upon the surrounding parts, these are absorbed, and the growth goes on and oftentimes branches of nerves are impinged upon, and neuralgia occurs. I have found nothing better for treatment of this affection, than iodide of potassium. This agent acts especially upon abnormal growths, breaking down and destroying them. Healthy tissue resists the action of this agent correspondent to the vigor of the vitality, while abnormal tissue is acted upon in almost any case. Iodide of potassium may be taken in from 10 to 30 grain doses three times daily.

There are cases of exostosis, doubtless, in which extraction of the affected tooth or teeth is the only remedy.

Dr. J. TAYLOR, I have found patients who could not tolerate iodide of potassium.

Dr. WATT, Bromide of potassium may be substituted for the iodide. It may be taken in 20 to 30 grain doses twice daily.

WABASH VALLEY DENTAL SOCIETY.

The annual meeting of the Wabash Valley Dental Association convened in the rooms of the Young Men's Christian Association, at Lafayette, Ind., Wednesday, the 24th day of March, 1869.

The following gentlemen were elected officers of the Association for the present year :

President—Dr. A. T. Keightley.

First Vice President—Dr. S. B. Brown.

Second Vice President—Dr. A. B. Cunningham.

Secretary—Dr. W. H. Pifer.

Treasurer—Dr. A. M. Moore.

Board of Sensors—Drs. A. M. Moore, A. B. Cunningham and S. B. Brown.

Executive Committee—Drs. E. V. Burt, J. S. Snoddy and S. H. Martin.

Delegates to American Dental Association—Drs. A. B. Cunningham, S. B. Brown, A. T. Keightley, W. H. Pifer, George D. Loag and S. H. Martin.

Contingents—Drs. A. M. Moore and J. S. Snoddy.

An address from the President elect met the approval of the members of the Association and was ordered for publication.

“ When should the file be used ? ” was the title of an essay from Dr. W. F. Morrill, of New Albany, which was also requested for publication.

The Constitution and By-Laws of Indiana State Dental Association was adopted by the Association, after the necessary alterations.

The Code of Ethics, as adopted by the American Dental Association, was also adopted by the Association.

After an interesting and profitable meeting of two days, the Association adjourned, to meet at LaFayette, March 24, 1870.

The Wabash Valley Dental Association was organized in the spring of 1864, as a local Society, in the interests of the Dentists of Middle and Northern Indiana. It numbers from thirty-five to forty members. Meets annually at Lafayette. Though the minutes of many of the previous meetings have not appeared in the journals, the Society is in a flourishing condition.

W. H. PIFER, *Secretary*.



HARRIS DENTAL ASSOCIATION.

The Second Annual Meeting of the Harris Dental Association was held at New Holland, Lancaster County, Pa., on Thursday, May 6. The attendance of so large a number of the members was sufficient evidence of their unabated interest in the prosperity of the Association, while the reports of the Secretary and Treasurer disclosed a favorable condition of its affairs. The election for officers resulted as follows :

President—Dr. S. Welchens.

Vice President—Dr. P. W. Heistand.

Secretary—Dr. Wm. Nichols Amer.

Treasurer—Dr. J. G. Moore.

Executive Committee—Drs. McCalla, Webb and Hoffer.

Delegates to State Dental Society—Drs. Heistand, Moore and Webb.

Delegates to the American Dental Association—Drs. Amer, Hoffer and McCalla.

The retiring President, Dr. John McCalla, delivered the annual address and presented certificates of membership to those present. After the transaction of the ordinary business and the reading of an essay by Dr. Welchens, the Association adjourned to meet in August next, at Euphrata Mountain Springs. Respectfully yours,

JOHN MCCALLA.

NEW YORK, May 7th, 1869.

Dr. J. TAFT—*Dear Sir*: In accordance with your kind proposition made at Niagara, I send you for publication the Constitution, Order of Business, and Rules of Order of the American Dental Association, as amended by their Committee.

The amendments to the Constitution were proposed last year, therefore we shall have either to reject or adopt them at our approaching session, any material alteration being contrary to our existing Constitution.

The Order of Business was adopted last year, and will be our law for this year, unless altered by a three fourths vote of all the members present.

The Rules of Order are substantially those adopted by the New York State Dental Society, after pretty thorough consideration.

It is probably best to publish these proposed amendments before the meeting; as, if they are unworthy, they will be then fully known and can be rejected; if they are worthy, they can be adopted without long consideration, and the few who may prefer to have such laws as shall give to certain individuals, more than their due share of influence in the Association, will not be able to materially alter the views which will already have been formed.

Yours very respectfully,

E. A. BOGUE, *Chairman of Committee.*

CONSTITUTION.

ARTICLE I.

NAME.—This organization shall be known by the name of the American Dental Association.

ARTICLE II.

OBJECTS.—The objects of this Association shall be, to cultivate the science and art of Dentistry, and all its col-

lateral branches; to elevate and sustain the professional character of Dentists, to promote among them mutual improvement, social intercourse and good feeling, and collectively to represent and have cognizance of the common interests of the Dental Profession.

ARTICLE III.

SECTION 1.—*Membership.* *Number of delegates from local Societies.*—Each local society may send one for every five of its active members, and each Dental College one from its faculty as delegates to this Association, upon complying with the requirements of its Constitution, but no society shall be entitled to representation that does not adopt or substantially recognize its code of ethics.

SEC. 2.—*Expelled members.*—Any member of a State or local society, being expelled from the same, shall cease to be a member of this Association from the date of such expulsion.

SEC. 3.—*Members to be of two Classes.*—The members of this Association shall be of two classes, delegates and permanent members, having equal rights and privileges.

SEC. 4.—*Delegates.*—All delegates shall be practitioners of Dentistry; they shall receive their appointment only from permanently organized Dental Societies and Dental Colleges, having definite conditions of membership other than pecuniary, which shall have been approved by the Executive Committee, and a copy of which shall be in the hands of the Recording Secretary of this body.

SEC. 5.—*Permanent Members.*—Permanent members shall consist of those who, having served one year as delegates, and complied with the requirements of the Association, shall signify to the Treasurer a desire for permanent membership.

SEC. 6.—*Signing Constitution.*—Each new member before voting or speaking on any subject before the meeting, shall sign these regulations, inscribing his name, and the title and

location of the institution from which he receives his appointment.

SEC. 7.—*Dues*.—Five dollars shall be paid to the Treasurer by each member yearly, as dues, before he can speak or vote on any subject before the Association, and in case the dues remain unpaid at the close of the second annual meeting thereafter, the name of any such delinquent shall be erased from the list of members without further action.

SEC. 8.—*Giving name on rising*.—No one shall be permitted to address the Association before giving his name and residence, which shall be distinctly announced from the chair, nor shall he speak more than twice, nor longer than 15 minutes in all, unless by consent of the Association.

ARTICLE IV.

Time of Meetings.—The regular meetings of the Association shall be held annually, and commence on the first Tuesday in August. The place of meeting shall be determined each year by vote of the Association.

ARTICLE V.

SECTION 1.—*Officers. How elected*.—The officers of this Association shall be a President, two Vice-Presidents, Corresponding Secretary, Recording Secretary, Treasurer, and the Executive Committee, who shall be elected by ballot without nomination. The two names, or in case of a tie, the three names having the greatest number of votes, shall be the sole nominees in case of failure to elect on the first ballot, and a majority of all the votes cast for those names, shall be necessary to a choice.

Each officer, except as otherwise provided, shall hold his appointment for one year, or until another is elected to succeed him.

SEC. 2.—*President, duties of*.—The President shall preside according to Parliamentary usage, as laid down in Cushing's Manual, and the rules of order adopted by this Association

SEC. 3.—*Vice-President*.—In the absence of the President, one of the Vice-Presidents shall perform the duties of the office, and in the absence of these officers, a chairman *pro tem.*, shall be appointed by acclamation.

SEC. 4.—*Corresponding Secretary*.—The Corresponding Secretary shall attend to the correspondence of the Association with the Societies therein represented, and to correspondence with other scientific bodies as may be desirable.

SEC. 5.—*Recording Secretary*.—The Recording Secretary shall keep accurate minutes of the proceedings of the Association, preserve the archives and unpublished documents, and attend to the other duties that pertain to his office. He shall be *ex-officio* chairman of the Publication Committee, and shall see that due notice is given of the time and place of meeting of the Association.

SEC. 6.—*Executive Committee*.—The Executive Committee shall be the business committee of the Association, to whom shall be referred all business not otherwise specially provided for. They shall report at each meeting, under the proper head their doings for the current year.

Sub-Committees. 1st Division, Committee of Arrangements.—This Committee shall be composed of nine members, three of whom shall act as the Committee of Arrangements, and shall procure suitable accommodations for the meetings and clinics, and for the exhibition and examination of appliances, of which they shall have the charge. These three shall, if practicable, reside at or near the place at which the Association is to hold its next annual meeting; and shall attend generally to the wants of the Association during its session.

2d Division. Credentials and Auditing Committee.—Other three shall examine and verify the credentials and qualifications of members, and shall also be the auditing committee for that year.

3d Division. Committee on Nominations and Volunteer Essays.—The remaining three shall examine all volunteer

essays, and before they are read to the Association shall give their approval, in order that time may not be taken up by unworthy or irrelevant matter.

They shall report names for the Standing Committees for the ensuing year, and the names of places for the next meeting.

Publication Committee, how appointed.—Immediately after the election of new members to the Executive Committee, two from that committee shall be appointed by the President to act in conjunction with the Recording Secretary, as the Publication Committee. They shall be authorized to employ a competent reporter to furnish an accurate report of the proceedings of each meeting.

Instructions to the Publication Committee.—They shall superintend the publication and distribution of such portions of the transactions as the Association may direct, or the committee judge to be of sufficient value. They shall specify in the annual report of this committee the character and cost of the publications of the Association during the year, and the number of copies still on hand.

Disclaimer.—This committee is hereby instructed to print at the beginning of each volume of the transactions, the following disclaimer, viz.: “The American Dental Association, although formally accepting and publishing the reports of the various Standing Committees, and the essays read before the Association, holds itself wholly irresponsible for the opinions, theories, or criticisms therein contained, except when otherwise decided by special resolution.”

Reports of sub-committees—Each of these sub-committees shall report from time to time as may be necessary, to the Executive Committee as a whole, who shall decide upon such report if possible, but in case of their inability to decide upon any matter, it shall be brought before the Association for its decision as early as practicable.

Classification of Executive Committee.—At the first election of this committee, the first three shall be elected to serve three

years, the second three for two years, and the last three for one year, and thenceforward three new members shall be elected each year by ballot, to serve three years, and in case of the absence of any member of this committee, his place may be temporarily filled by the remaining members of the committee.

Meetings of Executive Committee.—The Executive Committee shall, if possible, meet for consultation and arrangement of their respective duties, on the day preceding the annual meeting of the Association, and shall meet for the examination of credentials, the arrangement of appliances, and the reception of papers, and such other business as may properly come before them, at 8 A. M., on the day of the annual meeting.

Sub-division of Executive Committee.—They shall also meet after the election of new members to the committee, to choose their own chairman and Secretary, and to divide themselves into three sub-committees as hereinbefore provided, and for the purposes described.

Chairman may convene the Committee.—The chairman of this committee may at his own discretion, summon the members thereof to a meeting, at any suitable hour during the sessions of the Association.

SEC. 7.—*Treasurer, to attend to receive dues at 8 A. M.*—The Treasurer shall hold all the monies belonging to the Association, and shall keep an accurate account as between the society and its members. He shall attend the meeting of the Executive Committee at 8 A. M., on the day of the Annual Meeting, to receive dues, and shall attend at roll call to verify the list of names, checking all such as are in arrears for dues, he shall restore such names upon payment of dues within the legal limits, and shall notify all whose names may be erased from the list of membership. He shall pay the drafts of the President countersigned by the Secretary upon vote of the society only, and shall report to the Executive Committee where his accounts shall be audited, and

by whom his report shall be presented to the Association together with their own.

ARTICLE VI.

SECTION 1.—*Names of Standing Committees.*—The following Standing Committees of three, shall be appointed at each annual meeting, to prepare, arrange, and expedite business in their several departments for the ensuing year, viz.:

A Committee on Physiology.

- “ “ Dental Pathology and Surgery.
- “ “ Dental Histology and Microscopy.
- “ “ Dental Chemistry.
- “ “ Dental Therapeutics.
- “ “ Operative Dentistry.
- “ “ Mechanical Dentistry.
- “ “ Dental Education.
- “ “ Dental Literature.
- “ “ Prize Essays.

SEC. 2.—*Duties of Members of Committees.*—It shall be the duty of each member of the Standing Committees to make an individual report, so far as such report can be made, and in case of inability to be present at the meeting where that report is due, to forward it to the Recording Secretary, from whom it can be obtained by the chairman of each committee, respectively, at the time of assembling of this Association.

SEC. 3.—*Duties of Committees.*—Each committee shall report, if practicable, the results of original investigations in their several departments, and also such new matter, collected from all the sources at their command, as may be of interest and profit to the Association.

SEC. 4.—*Committees on Operative and Mechanical Dentistry.*—The committees on Operative and Mechanical Dentistry shall thoroughly test, and report upon new modes and materials, and upon their physical properties, stating clearly *why* any particular mode of practice should claim attention, and giving tabulated lists of successes and failures so far as may be obtainable.

SEC. 5.—*Prize Essays*.—Two prizes of medals, not exceeding in value fifty dollars each, may be awarded to the best two communications reported on favorably by the committee on Prize Essays, directed by the Association to be published.

ARTICLE VII.

Quorum.—Fifteen members shall constitute a quorum for the transaction of business in this Association.

ARTICLE VIII.

Suspending Rules three-fourths to vote.—This order of business may be temporarily suspended by a three-fourths vote of all the members present, for the consideration of a specific subject, upon the completion of which the regular order shall be at once resumed.

ORDER OF BUSINESS.

- 1st. Meeting of the Executive Committee, filling of vacancies therein, examination of credentials, and payment of dues. 8 A. M.
- 2d. Organization of the meeting. 10 A. M.
- 3d. Calling the roll of qualified members.
- 4th. Reading of the minutes and action thereon.
- 5th. The reading and consideration of the stated annual reports from the Standing Committees, together with volunteer papers upon the same subjects, in their consecutive order.
- 6th. Report of Executive Committee.
- 7th. Balloting for the place of next annual meeting.
- 8th. Election of Officers, and three members of the Executive Committee.
- 9th. Appointment of Standing Committees.
- 10th. Instructions to the Permanent Committees.
- 11th. Unfinished, new, and Miscellaneous Business.
- 12th. Adjournment.

ARTICLE IX.

Amendments.—No alteration or amendment shall be made in the foregoing articles, or rules of order, except with the

consent of three-fourths of the members present at the subsequent annual meeting to that at which such amendment or alteration may have been proposed in writing.

RULES OF ORDER.

1. On the arrival of the hour of meeting the President shall take the chair, call to order, and announce that the meeting is open for business.

2. No motion or speech shall be in order until the mover or speaker shall have been recognized and assigned the floor by the chair, nor shall a motion be open for debate until seconded and stated by the chair.

3. At the request of any member a motion shall be put in writing.

4. At the request of five members a question shall be divided, or the Yeas and Nays ordered.

5. When a question is under debate no other motion shall be in order, except, 1st, to adjourn; 2d, to lay on the table; 3d, the previous question; 4th, to postpone; 5th, to commit; 6th, to amend; and these motions shall take precedence in the order here stated.

6. The motions to adjourn, to lay on the table and to postpone, shall be decided without debate.

7. A motion to adjourn shall be always in order, but no member can make such a motion while another is speaking, or while a vote or ballot is being taken.

8. A second amendment to the main question shall not be in order until the first is disposed of, nor shall there be an amendment of an amendment to an amendment.

9. After a motion has been seconded and stated by the chair, it shall not be withdrawn without the consent of the Society.

10. No member shall interrupt another while speaking except to call him to order.

11. When called to order a member shall sit down until the point of order is decided by the chair, or in case of appeal by the Society. If the point of order be sustained, the member can proceed in order by the consent of the Society.

12. Every member shall vote upon a question unless excused by the Society.

13. When any motion except to adjourn, has been rejected, it shall not be renewed without unanimous consent.

14. Any member who voted in the majority may move a reconsideration of that question, but if that motion shall be lost, or laid upon the table, it shall not be renewed without unanimous consent.

15. The President may vote with the members upon all questions, but having so voted, shall not give the casting vote in case of a tie.

16. Motions for filling blanks shall be put in the order in which they are moved.

17. On a division, or in voting by Yeas and Nays, any member may change his vote before the result is declared.

18. These rules may be suspended by unanimous consent.

E. A. BOGUE,	}	<i>Committee.</i>
W. H. GODDARD,		
W. H. MORGAN,		



DENTAL ASSOCIATION.

MR. EDITOR: Permit me to call the attention of the delegates to, and members of, the American Dental Association, which holds its annual meeting at Saratoga, on the first Tuesday in August, to the desire intimated and expressed by some of making our next meeting additionally attractive and interesting, by combining the social elements with our professional gathering, and to this end the Committee of Arrangements would suggest and urge the delegates and members to bring their wives and daughters with them, in the hopes that by so doing additional interest will cluster around our gathering and add much to the pleasure and gratification to ourselves and those connected with us.

The committee will see that accommodations are provided for all who will give timely notice of their wishes by addressing the Chairman, stating what accommodations they require, &c.

J. G. AMBLER, *Chairman*,
25 West Twenty-third St., New York.

Selections.

SULPHATE OF NICKEL—A SEDATIVE.—Dr. J. Dabney Palmer writes, (*Amer. Jour. of Pharmacy*,) Sulphate of Nickel has been “employed in a variety of painful affections and also with the view of simply producing sleep, where Dover’s powder and other preparations of opium were contra-indicated, and in every instance produced the desired effect. This experience, although limited, inclines me to believe that the sulphate may be regarded as a valuable sedative, and, unlike many others of that class, it is not followed by disagreeable sensations, nor derangements of the alimentary canal.” It is given in half-grain or grain doses three times a day.

THIRD DENTITION—By J. K. DODGE, West Eau Claire, Wis.—Two cases of third dentition have lately come to my notice, which may be of interest to the profession. One was that of a lady of 48 years, who had her teeth taken out eight months since, and who now has a right superior cuspid erupting, and I think there are signs of others. The second case was that of a daughter of the first, aged 18, who had her teeth taken out some six months since; a right superior cuspid appeared, which I extracted. These are interesting cases, happening the same to both mother and daughter.—*Dental Cosmos*.

THIRD DENTITION.—Dr. H. H. Nelles, Dentist, reports in the *Canada Journal of Dental Science*, the case of a lady forty-five years of age, from whom he extracted a number of roots preparatory to the insertion of a full set of artificial dentures. Upon a second visit, to his surprise, he found that nature had sent forth a well-developed superior *cuspidatus*. In anticipation that nature would complete the work thus auspiciously begun, Dr. Nelles deferred inserting an artificial

set of teeth. This case brings to mind a fact related of himself, by a gentleman of our acquaintance. When he was 19 years of age, his four upper incisors were broken off by a blow with an iron bar. The roots were extracted, but no artificial teeth inserted. Some months after, while at the table eating, he was greatly startled to discover the points of teeth projecting through the gum. The incisors soon fully supplied the place of the lost second teeth, and are as perfect in every particular as one could wish.—HENRY GIBBONS, Jr., M. D. *Pacific Med. & Surg. Jour.*

A CASE OF PETRIFICATION.—The following singular case of petrification was recently published in the *Criminal Zeitung* of Dec. 4th, 1868.

Amos Broughton, of Wayne County, Iowa, died six years ago, and recently on disinterring the body it was found in a state of petrification, like a marble statue. Every feature was perfect, and the whole face life-like. The weight of the statue was 400 pounds. Broughton weighed just before death 200 pounds.

TWO CASES OF DEATH FROM CHLOROFORM have recently occurred in this city, in which every apparent care was taken to guard against such a result. We doubt not that there are yet to be found, despite many similar cases that are constantly occurring, many enthusiasts for this anæsthetic who are still ready to affirm that it has no direct agency in causing death. Such, however, can no more be convinced of their error than was the Indian who missed his way: "Indian no lost! only wigwam gone!!"—*N. Y. Med. Record.*

A SUPERIOR LIQUID GLUE.—A liquid glue, far superior to mucilage, may be made by dissolving glue in an equal quantity of strong hot vinegar, adding a fourth of alcohol and a little alum. This will keep any length of time when placed in closed bottles, and will glue together horn, wood, and mother of pearl.—*Scientific American.*

TREATMENT OF DISEASED GUMS.—A writer in the *London Lancet* recommends the following treatment of diseased gums: The teeth should be washed night and morning with a moderately small and soft brush; after the morning ablution, pour on a second toothbrush, slightly dampened, a little of the following lotion, and apply it to the affected parts: Carbolic acid, one scruple; rectified spirits of wine, two drachms; distilled water, six ounces. By the use of this preparation, suppurative action is kept under, and the gums get firmer and less tender.

THE LAST WONDER OF THE SPECTROSCOPE.—The spectro-scope, which, since its invention eight years since, by Bunsen and Kirchoff, has contributed so much to the progress of science, was used with signal success in observations of the recent total eclipse of the sun, by English and French parties, in different parts of Asia. By this means the nature of the protuberances on the rim of the solar disc, observed in former eclipses, has been satisfactorily explained. They are found to be columns of incandescent gas, possibly containing hydrogen.

LEECHES.—Leeches belong to a group of articulate animals of a division of the red-blooded worm. They have ten eyes around the lips. These eyes are very brilliant, and arranged in the form of a horse-shoe. They have three jaws, forming the three sides of a triangle. Each jaw is armed with teeth capable of piercing the toughest skin. The body of the medicinal leech consists of ninety-six to one hundred ringlets. As they grow the rings increase in size, but not in number. Their colors vary exceedingly, the most brilliant being that of the Australian leech. From official statistics it is found that the value of the leech sold in various parts of Europe, for use in home and foreign markets, aggregates the sum of ten millions of dollars annually, which amount is progressing from the diminished production in those countries themselves, and the consequent increased demand for leeches brought from Australia and other parts of the world. They are transported in clean linen sacks, or packed in clay or earth. Large numbers are lost by heat or confinement.—*Chem. Gazette.*

Editorial.



SORE, OR SOUR?

WE had a schoolmate once who never appeared to be happy, unless he had a sore toe. Little boys then and there ran bare-foot. So by the aid of snags and sharp stones, an occasional cut with an axe, and especially assisted by the shoe-heels of the large boys, he could generally manage to be gratified; or what answered quite as well, he would imagine he had a sore toe and "tie it up," anyway. And how persistently he would patronize that sore toe! And how much deference he expected us all to show it! And how it was always a "very present help in time of trouble!" Behold, are not these all written in the book of the chronicles of the old brick schoolhouse?

That sore *toe* was a *handy* thing. If beaten at play, it was because he had a sore toe. If "turned down" in a spelling match, the boy that turned him down had hurt his sore toe. The teacher was expected to indulge him; for it would have been cruel to make him "toe the mark" with his sore toe. But, in spite of all his sufferings, he was a generous boy. If you would give him an apple he would show you his sore toe. We lost trace of our schoolmate; but we begin to suspect that he is now editing a professional journal. At any rate the "American Journal of Dental Science" has a sore toe, or thinks it has, which, as in the former case, answers just as well. And if the Dental profession in the South will give it an apple—no—an Association, it agrees to exhibit its sore toe for their peculiar gratification, and will not let the other boys see it at all.

The persistent effort of the "American Journal" to get up a prejudice in the South against the profession in the North is quite as silly, and far more wicked than the above. And it seems determined to succeed by means fair or foul. And we could not have been induced to allude to the controversy had it

treated the DENTAL REGISTER's position with candor. The REGISTER published Dr. Morgan's reply to "J. H. McQ." in which Dr. M., alluding to the action of the Nominating Committee at the Chicago meeting, says, "And while the name of the writer was before the nominating Committee, he was approached by a member of that Committee direct from that Committee, and his politics asked. It was not doubted that the Committee sent him." Just at this point a foot note was added, in the REGISTER, by the Chairman of the nominating Committee, not only with Dr. Morgan's consent, but it was revised, as to language, by him. This note states positively, "He was not sent by the Committee." Now the *Journal*, in its zeal to "fire the southern heart," though taking the article from the REGISTER, fails to give the important fact contained in the foot note, which, be it remembered, is an *official* statement, and thus it does all it can to disgrace the nominating committee of the Chicago meeting, by allowing the silly twaddle and insulting conduct of a single member to be imputed to the whole Committee, when it knew better. A cause that can only be carried by such means is worse than a sore toe.

We are in favor of a Southern Dental Association. In favor of a Northern one, a middle one—as many as there is room for, and we will attend as many as we can.

But, brethren, stop all this complaining about being slighted. The war was a great—a terrible fact; but it was fought through, and now has nothing to do with the progress of Dental science.

W.

THE DENTAL REGISTER.

VOL. XXIII.]

JUNE, 1869.

[No. 6.

Original Communications.

DENTAL HYGIENE.

BY H. L. AMBLER, D. D. S., M. D.

Ovid, in addressing a beautiful lady, remarks : I can perceive your attention to the graces by the whiteness of your teeth. Lord Chesterfield says, that fine and clean teeth are among the first recommendations to be met with in the common intercourse of society. Thus we see, that both in ancient and modern times, the cleanliness of these organs was regarded as of the first importance; and in order to preserve their beauty to an old age, we must first consider their hygiene, which includes several subjects for our examination. First, some of the articles of food which are injurious : in general, animal substances are not as favorable to the preservation of the teeth as vegetable; for instance, there is more difficulty in removing the fibres of roast beef from between the teeth, or to remove the glutinous deposits of boiled meats, than there would be to get rid of vegetable accumulations. Also, the constant and prolonged use of smoked and salt meats, exert an unfavorable action on the

gums, causing them to bleed easily, and the teeth to become loose and painful. Most people regard sugar as very injurious, but we should be inclined to doubt it, if we take the negroes for example, who, during a certain season of the year, eat almost nothing else, and they fatten on this diet; neither do they manifest any loss of the remarkable whiteness of their teeth. Although chemical analysis does not detect in sugar any acid quality, it is certain that most persons who eat largely of confectionery, experience sensations about the teeth, by no means favorable to the continuance of this indulgence. Workmen in sugar refineries generally have poor teeth, as do many of the girls employed in confectionery shops. This probably results from their partaking so often of the sweets, that some remains of them are left between the teeth, and undergoing a process of fermentation, have a very strong tendency to become acid, which certainly is injurious. If the chemical action of alcoholic drinks are not directly injurious to the teeth, they keep the mouth and gums in a state of irritation, which necessarily affects the teeth. River water is better for the teeth than well water, and in towns where no soft water can be procured, the inhabitants lose their teeth at the fortieth year. Young ladies, and also a great many older ones, often have an invincible propensity to devour acid substances, especially pickles, with the idea that it will give them a fine white complexion. We can not too frequently set before them the danger to their health, which such indulgence involves, and the destruction of their teeth, to them a priceless ornament, which must result if they should not suppress this depraved appetite.

A lady patient of mine, was advised by her physician, for some morbid affection, to eat lemons, which are mostly composed of citric acid; when she commenced, her teeth were good, and of a bluish white color, but in one week, owing to the action of such a powerful acid on the tooth structure, they were completely whitened, and she was obliged to discontinue this treatment, as she could not eat anything with comfort;

for, said she, my teeth are all on edge. Gargles of nitric acid are sometimes prescribed for affections of the throat, but in the use of this or any other acid in connection with the mouth, we should be careful to thoroughly cleanse the teeth immediately afterward, and an alkaline preparation is the proper thing to use; as it is these acids that are the immediate cause of Dental caries. Of all the forms of vegetable matter in this climate, the farinaceous grains are the most important. But in making them into bread, the coarse part, which is the tooth building substance, is separated from the fine white portion and thrown aside. In the inner skin of wheat there is an oily quality of a sweet nature, and bread made of both the coarse and fine portions is sweeter, easier digested, and better in every way for the support of the teeth, as well as the general health. Barlow says:

“ To mix the food by vicious rules of art,
To kill the stomach and to sink the heart,
To make mankind in social virtue sour,
Cram o’er each dish, and be what they devour;
For this the kitchen nurse first framed her book,
Commanding sweat to stream from every cook,
Children no more their antic gambols tried,
And friends to physic wondered why they died.”

We will now notice some of the influences of clothing and atmospheric changes. Next to the lungs the teeth are the most exposed to suffering from the daily imprudences committed in these respects. They may be affected directly or indirectly. Directly by the sharp stimulation which the cold imparts to the blood vessels and nerves enclosed by the membrane of the dental canal and pulp chamber. Indirectly, by the sudden suppression of transpiration from some part of the body, which is thrown upon the mucous membrane of the mouth, and thence upon the teeth, causing inflammation. Ladies especially, on account of their organizations, are most sensible to slight changes of temperature. The best means of protection is to acquire early the habit of not clothing the

person too heavily, and to take exercise in the open air. This will favor the harmonious development of all parts of the body, and give to each the power to resist morbid influences. As soon as there is a change of temperature, we should take care to clothe ourselves suitably, particularly when passing out into the air from crowded rooms, where the exhilaration of pleasure and the high temperature has excited us to the utmost. Among the things hurtful to the teeth, we notice the bad habit of using them for purposes for which they were never intended. Persons, who with their teeth crack nuts, draw corks and nails, lift heavy weights, and bite thread, a thing especially to caution the ladies against, only expose to premature decay, organs indispensable to nutrition and beauty. Inveterate smoking is also to be deprecated, for it corrodes the teeth, and the sudden change many times in inhaling cold air, causes an inflammatory action of the mucous membrane of the mouth. The continued use of pipes and cigar holders, being made of hard substances, wear away the teeth. Look at an old man who smokes a clay pipe for an example, and you will find the lateral incisor and cuspid worn to such a shape, that they exactly fit the stem of his pipe. There is a habit which the ladies have of putting pins and needles in their mouth, and often carrying them there for a long time. This is no little matter, for the contact of these hard bodies, pressed with more or less force will wear away the enamel, and sometimes induce caries of the whole tooth.

One of the simplest means of preserving the teeth, consists in cleanliness of the mouth. The first thing after rising in the morning, or from a meal, should be to cleanse the mouth thoroughly with tepid water. It is the custom in some parts of England and France, to rinse the mouth with warm aromatic water after eating. It is well to remember that this precaution not only tends to keep the teeth clean, but to clear the voice of those about to sing or converse. By cleansing the teeth three times a day regularly, the formation

of tartar is not only prevented, but such particles of food and other extraneous matter as lodge about and adhere to them, causing irritation and inflammation are by this means removed. The fermentation of vegetable substances in the mouth, produces indirectly sulphuric acid. Animal and nitrogenous substances producing nitric acid. These vitiate the fluids of the mouth and help the teeth on to certain decay. Attention to cleanliness of the teeth in early life, can not be too urgently insisted upon, for it is evident that most of their diseases arise from foreign matter being suffered to remain upon and between them, and no time therefore should be lost, in removing what has accumulated as soon as it is discovered.

From what we know of the nature and use of the teeth, it is evident that whatever is capable of destroying them, must be injurious in the highest degree. All acids, gritty powders, and tinctures, that for a time give whiteness to the teeth, are certain ultimately to destroy their texture, and render them more liable to decay. The way to preserve the color of the teeth, is to remove whatever may collect upon them, and thus allow them to possess their natural whiteness and polish. The best method to effect this is with a brush and tepid water, then pass a thread of waxed floss silk between them, to dislodge whatever may have collected on their approximal sides. If these means do not subserve to prevent the accumulation of tartar, we would recommend as the most simple dentifrice, a nice article of precipitated chalk, which possesses alkaline properties sufficient to help neutralize the fluids of an acid character which come in contact with the teeth, and to promote their well-being, as well as the parts surrounding them. The habit which many have of scouring their teeth with soot or charcoal, is a detestable practice. The small black grains remain between the necks of the teeth and the gums, and their constant use in many cases will cause absorption of the gums around the necks of the teeth; and beside all this, they scratch the enamel. This

will seem very plain, when we remember that charcoal is used for polishing steel.

If we take a survey of society in general, we shall be forced to conclude, that perfect cleanliness of the mouth and teeth, is considered as an object of minor importance, and the attention of parents can not be too closely directed to this fact. It is said that habit is second nature, therefore practice should be so modified to the nature and the ability of the individual being, as to produce upon him with uniformity, a profitable and beneficial result. The knowledge of using the means to keep the mouth and teeth cleansed, should be possessed by every mother, as society imposes upon her the task of directing the early habits and impressions of her children. If parents are brought to reflect upon this subject in relation to the importance it bears to the future health and happiness of their offspring, and avail themselves of the best information on this topic, so interwoven with the best interests of society; how much good would be dispensed and how extended the beauty and happiness of mankind.

In regard to the care of children's teeth, we would say: As soon as the teeth make their appearance, it should be the duty of the mother or nurse, to clean them morning and evening with a small brush and tepid water, and as they increase in number, floss silk well waxed should be passed between them, moving it up and down a little under the gums, for the purpose of removing all accumulations, remembering that food, fruit, etc, left in the mouth and between the teeth during sleep, are the principal causes of their decay. Early and careful attention to the teeth, cleanliness of mouth, temperance in living, and abstinence from acids, are some of the best maxims for the preservation and beauty of the teeth. When children are thus familiarized to the healthy and necessary custom of brushing the teeth, it becomes a fixed habit, and they will find it ever afterwards absolutely essential to their comfort. As soon as the child

is old enough, give it a tooth brush, and give instructions for its use, and see that it is done often and thoroughly. The brushes to be used should be adapted to each case, neither too soft nor too hard, and so formed as to clean the teeth without injuriously irritating the surrounding tissues. Brushes for children should not be quite as stiff as for older persons, the gums not having been subjected to as much friction, are not so dense. Procure brushes of a medium width, and narrow at their extremity, so as easily to penetrate to the last molars without wounding the cheeks; they should have three rows of bristles, with the handle slightly bent, so as to allow of an easy and graceful motion. In conclusion we would say:

"Let every fair one shun Urilla's fate,
And wake to action ere it be too late;
Let each successive day unfailing bring
The brush, the dentifrice, and from the spring
The cleansing flood, the labor will be small,
And blooming health will soon reward it all;
Or if her past neglect preclude relief,
By gentle means like these assuage her grief;
The dental art can remedy the ill,
Restore her hopes and make her lovely still."



HEALTH OF DENTISTS.

There can be no doubt but the Dental practitioner encounters a full share of the dangers that environ the pathway of human life and health, under all circumstances, conditions and avocations, modified by the peculiarities of his own individuality and special surroundings.

To avoid contact with these adverse influences, is perhaps utterly and absolutely impracticable, so far as the present race of mankind is concerned; most assuredly human ingenuity, and the most persistent effort, has never approximated the attainment of this desirable end.

Men may sometimes avoid contact with the special danger

that threatens their present condition or course of life, simply by hurling themselves against, or upon other dangers equally formidable, and for which they are equally unprepared. As yet, nothing better has been devised, than to fortify the system in the highest attainable condition of health, thus to reserve a fund of *life power* ready to oppose, whatever extraordinary assault external influences may make on our physical organization.

To illustrate, we will suppose that our "mutual friend," ———, who is endowed by nature with an extraordinary share of sympathetic impressibility, if he expose himself to sympathetic contact while he is in vigorous health, one of the predominant traits, or elements of his organic nature, is thus brought into healthy activity; under favorable circumstances a salutary reaction follows, imparting health and vigor to the entire system.

Whereas, if his general health be impaired,—if his general nervous system be in a feeble or irritable condition, the same sympathetic contact would aggravate the irritability, or increase the prostration, and the general constitutional result would be injurious and painful, rather than agreeable and salutary.

If he avoid sympathetic contact altogether, derangement necessarily supervenes from leaving an important feature, a predominant element of his organism in neglected idleness, to seek activity in misdirected pursuit of improper objects.

The individual, endowed with extraordinary gastric powers, will suffer more and die sooner from deficiency or destitution of food, than one whose digestive and nutritive system, bears a more harmonious or symmetrical proportion to his muscular, mental, and sympathetic constitution.

There was no departure from the true doctrine of human character, in the story of an Arkansas ruffian, who was reported to have been found on board one of the river steamers coiled up in a salt-bin, and when called upon for an

explanation, declared that he was a "ring-tailed roarer," that he could whip his weight in wild cats, but not having had a fight for three days, he was afraid he would spoil.

Predominant belligerent combativeness, prompts the unfortunate possessor to seek fame and fortune in personal contests; innate self-consciousness, clamorous for its wonted indulgence, its accustomed exercise.

I can not now speak of the expediency of yielding to the influence of untoward, or wayward inclinations or impulses; but would remark that the greater the deviation from symmetry of character, the stronger the tendency to seek special gratification, and hence arises the obliquity of inclination or impulse, that too often lead to universal and utter derangement.

The principles set forth, and the advice tendered in the article on preserving the health of Dentists, proposes to point out the way to avoid these dangerous errors.

How to correct these aberrations, incurred or established, is quite another matter, and may serve to furnish the subject matter for a future article.

H., Mc.

CONTOUR FILLINGS.

BY C. R. BUTLER, D. D. S., M. D.

Read before the Northern Ohio Dental Association.

Mr. President and Gentlemen :—At the last annual meeting of this association, it was your request that a paper be prepared and presented at this meeting on the question of contour fillings. We will first consider some of the elements and conditions that enter into the accomplishment of this object.

1st. The operator must be a man in the most complete sense, and he that has the greatest number of his physical and mental powers unimpaired, hereditarily or by accident, may, with favorable opportunities coupled with earnest toil, become proficient in any department of science and practice.

But just in degree as he lacks sphericity, there will be a want of contour and completeness in his work. Science as well as observation has taught us that the original form of the material world was a sphere. But as we look around and behold the terrible havoc and devastation, caused by volcanic inspiration and expiration, throwing the physical world into shapeless piles of rocks and mountains, interspersed with bottomless seas and seething whirlpools; can we wonder that man comes before us presenting so many deformities.

And, notwithstanding these seeming irreparable departures, there is an ever ceaseless struggle in the various departments of nature, to regain its pristine beauty, I trust you will pardon this seeming deviation for the purpose of illustration of the subject before us.

We as specialists are called upon to restore lost parts of the Dental organism, and we should ever be ambitious to use the noble faculties that the Great Father has bequeathed to us, not to be abused, but used to the utmost in the great work of restoring to health and beauty the organs we have to care for.

There is always a demand that keeps a little in advance of the supply, and it would not show health and vigor in any class of professional men, to be wanting in ability and disposition to meet promptly any legitimate demand made upon them. A few years ago the *demand* for contour operations was only occasional, and even then we were but partially able to meet the demand, for want of the proper knowledge and material.

But the progress that has been made in the past twelve years, shows that at least some have been equal to the demand.

We will briefly allude to some of the principal causes of the demand for contour fillings. The anatomical form and arrangement of the teeth for the performance of their functions in mastication and speech, is the strongest argument;

and if any portion of the shape of the crown be destroyed, its usefulness and health is more or less impaired.

2d. The material that serves us best in the restoration of these lost parts is the adhesive gold foil, and the simple assertion of this fact, in any association would be apt to provoke discussion; and notwithstanding, I leave it before you on its merit, and class it as an all important element in contour fillings. Innumerable efforts have been made to substitute other materials, but with very limited success.

The preparation of a cavity for a restoration filling is a matter of some importance; in the first place, the extent of the margins should be brought to view, then they should be squared up smoothly as it were for the reception of a segment of the original crown; then form within the cavity as strong points for anchorage as possible, into which the gold must be securely packed, in order that the filling when completed, may stand the force of mastication without being displaced.

And in order that we may be able to make the most complete contour operations, we require improved forms of instruments, in order that the gold may be more thoroughly consolidated in its entire column or mass. But, some are ready to exclaim, you have not told us *how* you would go to work to make an operation in any individual case.

Supposable cases may be much easier cited than a real operation made, and yet the latter would teach far more. I will, however, give two or three cases in practice. A case of the approximal surfaces of the right inferior first and second molars, standing close together in the mouth of a girl, say twelve years old, timid and sensitive, and cavities small, shall we file. The mutilation of the teeth at such a point will not be seen every time the patient speaks or laughs, or shall we resort to the wedge; yes, even *here* it is far more preferable.

But can sufficient room be gained immediately, not easily; but if circumstances would permit, I would use a compressed hickory wedge, driving it between the teeth, not down upon

the gum, and leave it a day; and then put in a piece of compressed pine, and keep it there a week or more, and the tenderness will nearly or quite subside.

On making the final operation, wedge them up firmly with orange wood by commencing to drive the wedge gently, until you have secured solidity; proceed to excavate and finish. A few days since I operated on such a case.

The next, a boy ten years old; approximal surfaces of the left superior second bicuspid and first molar. Secured space by immediate wedging; no break in the grinding surface from the side cavities. And the third, an adult, teeth firmly set, with approximal cavities in left inferior second bicuspid and first molar. Secured as much space as possible by wedging, then cut a groove from the grinding surface square down, filled and finished up in contour form. In all these cases there was quite a free flow of saliva.

Many cases of extensive restoration might be cited, and minutely described; but sufficient has been said to bring to your notice the all important advantage of contour operations in filling. The demand being upon us, and the ability within us, how can we be content to make imperfect fillings, or fail to see that we will ere long be laid aside as unworthy the great trust that has been committed to our keeping.

It is *impossible* to make *all* operations alike perfect. A man may be from various circumstances, such as fatigue, mental distraction, want of compatibility between patient and operator, or lack of time; a part or all of these causes may and will hinder the performance of a complete operation. Recognizing these modifying influences, we ought not to allow ourselves to be thus overborne.

The operator that persists in making operations day after day, and *uniformly* of a superior character, exhibits a higher degree of integrity than he that produces good fillings occasionally; or when all things are favorable, and the gold sticks every time just where he puts it.

I have known of cases where an extensive operation was

demand, and it required *days* for the operator to so order his forces, that the attempt would be a success instead of a failure.

Perhaps some are ready to say, operations that cost so much don't pay, and I am not willing to work unless it does. Well, the amputation of a broken leg, pays a finer fee for the time spent, than the tedious treatment of a fracture for the restoration of the disabled member. And yet, who is reckless enough to say, cut them off, because it is quicker done. I would not advocate a course of practice that would be at all likely to lead operators into difficulties of a pecuniary character.

The fact that some operators are better paid than others, is no argument why all should not be making earnest efforts to do equally well, fillings of ordinary size, which are in demand far in advance of any others.

There are some operators that are counted as good and reliable men, who either lack real skill or courage (perhaps both), to attempt operations of much magnitude with gold; and what is the effect? The tendency is for patients to think that Dr. A., is much more reasonable in his fees than Dr. B., who filled the same number of teeth for a person as did Dr. A., and charged twice or thrice as much. And who knows, but that Dr. A. received much the largest per cent. on services rendered.

Many will say, it takes too much time to make contour fillings, and I can't put in ten, twenty or more fillings in a day. Professional men generally, charge fees on the basis of time consumed, rather than quantity of work done. An artist that is ambitious to display his skill in the *number* of his pieces, rather than completeness of execution, rarely attains to a high degree of eminence in the artistic world.

If we are satisfied that contour fillings are better than the old styles of shapeless slabs and pegs, then why should we continue to reject them, any more than taking the old lum-

bering stage or canal route, instead of the beautiful modern steamer or Lightning railway train to New York.

I have said but little, detailing the manipulation in any class of fillings, for I have long since learned, to be understood or teach correctly, you must address the *eye* as well as ear.

In making any filling, especially contour, the case must be kept free from moisture; and to do this successfully with the least annoyance to patient, should be the determined effort of every operator. Some may ask, what class of fillings do you call *contour*? Approximal, buccal, label, lingual, or grinding surface. I answer, *all* fillings should be contour, gold packed into a cavity, and left either in excess or deficient; in one case it would well represent a scar or pock-mark, and in the other an excrescence, rather than a contour operation.



THE HANDS.

BY C. H. EVANS.

One of the most disagreeable things connected with Dentistry since the introduction of rubber, is the handling of the blackened flasks when taken from the vulcanizer. When an operator is without an assistant, it is difficult to keep the hands in a proper condition, very necessary to the success of a Dentist. The operations are sufficiently dreaded by most persons, even when we make the manipulations as painless and agreeable as possible.

The use of brass flasks will lessen the quantity of the black deposit very much. Iron flasks seem to be the least able to resist the action of the high heat, and the sulphur contained in the rubber. It is better when the fingers are blackened, not to try to clean them by the use of pumice stone or pumice stone soap, as some endeavor to do, taking off about one-half of the cuticle; but to take the sweet oil brush, and oil over the blackened spots, then rub the

fingers together a few moments, which has the effect to loosen the particles. Remove the oil with castile soap, leaving the hands soft and smooth, with the advantage of having the full thickness of the cuticle; an exemption from the soreness and puckering, where the skin is worn thin.

A little good glycerine and rose water may be used with advantage after washing, especially if an operator is obliged to keep his hands in water longer than is required for perfect cleanliness.



OPERATIVE DENTISTRY.

BY J. G. WILLIS, M. D.

Operative Dentistry is conservative in its nature; its mission is to save, not to destroy; to retain, and not to restore. Therefore every new discovery or improvement made in the treatment of the natural teeth when diseased, which enables the Dentist more certainly to save them, is an additional laurel in the crown of Operative Dentistry. Successful Operative Dentistry is directly opposed to Mechanical Dentistry, which has been the fruitful cause of the destruction of myriads of valuable teeth. After viewing the subject from every stand-point, I am forced to the conclusion that if Mechanical Dentistry was blotted out of existence to-day, future generations would be largely benefited. The facility and cheapness with which artificial teeth can be supplied, induces hundreds of persons—yes, thousands, to neglect their natural teeth, consoling themselves with the reflection that when lost they can procure a new set. The amount of plate-work done by the profession in the aggregate in this country is a burning disgrace to the *science* of Dentistry.

The inventive genius of multitudes of men is engaged in the production of new and hitherto unused materials for bases for artificial dentures, proving the increasing demand for them, and demonstrating the immense sacrifice of the natural organs which is being made hourly all over this land, to make room for them. This should not be so. Every

year, as scientific light and information are disseminated, the demand for artificial teeth should grow less and less, until they should be demanded ultimately by those only, whose need of them has been caused by accident.

Every Dentist has a sacred duty to perform, and *he* neglects his *first* duty to his patients, who does not persistently urge upon them the utmost importance of using all the care and means in their power to preserve their natural teeth. A successful surgeon prides himself upon the infrequency of wooden legs and arms among his patrons, and he advises amputation, only as a *dernier* resort, after every possible means have been used to save the member, and life is threatened by failure of them all. False teeth then, may be regarded as bearing the same relation to conservative Dentistry, that false legs and arms do to conservative Surgery. Sometimes surgeons are called upon in Courts of Justice to show and demonstrate, that from the condition of the member, amputation was imperatively demanded and unavoidable. I very much fear, that if an inspection of many of the teeth, removed to make room for artificial substitutes could be made, they would be found to be amenable to treatment by which they could have been retained, and proved of lasting service to their possessors.

If false teeth were more expensive, and in other respects more difficult to procure, people would be more likely to take better care of their natural teeth, and endeavor to retain them. Cheap teeth have got a great deal to answer for, and they who insert the most and pride themselves on the fact, need to remember, that their success in the *art* is a direct imputation upon their *science*. If every Dentist in the land would persistently refuse to remove a sound tooth, or one that could be saved by treatment and plugging, this now great evil would be reduced to its smallest possible proportions. Then indeed would the science of Dentistry have the greatest claim upon the people for their support, and its beneficent results would be *more* frequently seen in the mouths of the public at large than at present.

Proceedings of Societies.

NORTHERN OHIO DENTAL ASSOCIATION.

YOUNGSTOWN, May 4th, 1869, 11 A. M.

The Association met according to the requirements of the Constitution.

President Dr. W. P. Horton in the Chair.

Minutes of the last annual meeting read and approved.

Names of members present : B. Strickland, C. R. Butler, F. S. Slosson, B. T. Spelman, Corydon Palmer, A. E. Lyman, W. P. Horton, J. F. Siddell, L. Buffett, C. C. Carroll, F. S. Whitslar, C. Buffett, J. G. Templeton, H. L. Ambler, D. R. Jennings, E. A. Way.

The Executive Committee reported the following order of exercises for this session :

Reading the minutes of the last meeting.

Report of Officers.

Report of Committees.

Election of Officers.

Election of members.

Election of delegates to the American Dental Association.

Essays and Discussions.

C. BUFFETT,
F. S. WHITSLAR, } *Committee.*

The report of the Treasurer was read by the Chair, and referred to Dr. Siddell, as auditor.

The Committee on Incorporation reported that there was no law in this State whereby such an association as this could be incorporated.

F. S. SLOSSON,
W. P. HORTON,
C. R. BUTLER, } *Committee.*

The election of officers for the ensuing year resulted in choice of the following :

President—F. S. Whitslar.

Vice-President—L. Buffett.

Recording Secretary—H. L. Ambler.

Corresponding Secretary—C. Buffett.

Treasurer—C. R. Butler.

Board of Examiners—L. Buffett, C. R. Butler, Corydon Palmer.

On motion, the association adjourned until 2 P. M.

FIRST DAY—AFTERNOON SESSION.

The association met according to adjournment. President, Dr. Horton, in the chair.

Minutes of the last meeting read and approved.

Dr. Whitslar, the incoming President, was then conducted to the chair by Drs. Spelman and Buffett.

The President then remarked that he was under obligations to the association for this new honor which they had seen fit to bestow upon him, although he was fearful he did not merit it; he should at all times try and do his duty, and judging by the goodly number present, it is deemed a good sign that the Dental fraternity are alive and glad to learn all that may be new and can be imparted by their brother members. Once more I thank the association for this mark of their approbation, and in accepting the duties of the office hope I may be able to conduct our meetings with impartiality and justice to all.

Dr. HORTON, the retiring President, upon retiring remarked: A bright day seems to be coming for the Dental profession in Ohio, as the law regulating the Practice of Dentistry has been passed, thus shutting out quacks from the full liberty which they before enjoyed; also, many other great improvements have been made in our specialty. We still hope that this association will work harmoniously, as they have done heretofore.

Dr. HORTON offered the following resolution :

Resolved, That the Dentist from Kent is a proper person for active membership in this association, provided he has been in practice in this State for the last year, and provided that he pass the necessary examination.

Dr. HORTON further remarked: Dental Education is a special education, and has for its object the elevation of two classes, the Dental operator and the generality of mankind. There is connected with it, something more than a mere mechanical pursuit. Both the hand and the head must be educated, as is well known by all scientific men. There are also many sciences to be studied in connection with Dentistry, such as Anatomy, Physiology, Pathology, etc. These underlie the profession of which we are the students. In our Dental colleges, preparations are complete for teaching all these branches, and one who desires to enter the profession, can do so now, at the point where years ago it would have taken very much more time to attain the same proficiency. Now we have a systematized course of study, where we can get both the theory and the practice; these advantages have been by untiring zeal arrived at. Our journals are multiplying, and these are a great source of information, containing many articles connected with our profession that are very instructive, and have cost the writers many hard hours of labor. Many physicians have treated patients systemically, when they should have been treated locally; all, because they had not been schooled in our specialty. Have noticed that in the Mississippi Valley there is a deficiency of lime substance in the tooth structure, and especially is this so in children. Both the parent and the child must be educated how to care for their teeth, then the time will soon come when people will have better teeth; for the Dentist and physician will have a better knowledge of each others specialties.

Dr. BUTLER then read an Essay on Contour Fillings, which was very instructive, and gave many new ideas worthy of imitation, as they were good and useful.

On motion, the association adjourned until 7½ P. M.

FIRST DAY—EVENING SESSION.

The association met according to adjournment.

President, Dr. Whitslar, in the chair.

Reading of minutes postponed.

The subject of Contour Fillings was then discussed by Drs. Strickland, Buffett, Palmer and others. A voluntary essay, subject, "The Dentist," was read by Dr. Siddell. It was somewhat novel, striking home at many points. The subject was discussed by Drs. Spelman, Slosson, Palmer, and others.

An essay was then read by Dr. Corydon Palmer, subject, Extraction of the Teeth, in connection with their method of preservation. The teeth should seldom be extracted, only when nothing can be done to preserve them. Those who make artificial dentures their specialty, sacrifice thousands of teeth which could be preserved; thus depriving their patients of that which they can never restore, for the purpose of enriching themselves; striving to make their patients believe they are giving them better teeth than those nature provided. But the people are not so much to blame for this general destruction, it is upon the Dentist that the reflection is cast; for with the daily evidence they have before them, they must know that the teeth can be restored in size and form, being rendered beautiful and useful. In these days, there can be no excuse for Dentists not qualifying themselves, so as to be able to preserve these natural organs. Let all try and see how many perfect gold fillings they can make, restoring the size and form of the tooth, and rendering them useful, instead of tearing them from their sockets to make room for artificial dentures. The Dentist must instruct the people in the care of their teeth and by this means help bring about a change for the better. One and all, begin with new courage, and strive to do all the good we can by saving these important organs.

The essay was received and placed on file. Remarks on the essay were made by Drs. Butler, Slosson, and others.

On motion, the association adjourned until 8½ A. M.

SECOND DAY—MORNING SESSION.

The association met according to adjournment.

President, Dr. Whitslar, in the chair.

Minutes of last meeting read and approved.

Dr. STRICKLAND offered the following amendment to the Constitution :

Resolved, That it shall be the duty of the Secretary to strike out from the list of active members, the name of any person who has failed to participate in the meetings of the association and pay his dues to the same for two successive years, and the person so expelled shall not be restored again to membership, except by a vote of two-thirds of all the members present at any regular meeting.

An Essay on Dental Hygiene was read by H. L. Ambler.

On motion, it was received and placed on file.

Remarks were then made on the subject by Drs. Butler, Buffett, and Palmer.

Drs. Butler, Templeton, Ambler, Palmer and Whitslar, were appointed delegates to the American Dental Association.

Dr. Carroll read an Essay on Alveolar Abscess. It was discussed by Drs. Spelman, Ambler and others.

On motion, the association adjourned until 1½ P. M.

SECOND DAY—AFTERNOON SESSION.

Meeting called to order by the President.

On motion, Drs. Templeton, Jennings and Ambler, the Committee on Dental Ethics was continued for one year.

The chair appointed as Executive Committee for the ensuing year, Drs. Buffett, Horton and Spelman.

Dr. Way exhibited cases of rubber work made after Dr. Stucks' Patent, involving the use of metallic dies for vulcanizing upon.

The Committee on Dental Ethics reported as follows: That S. B. Burnham be cited before this Committee to answer specific charges for unprofessional conduct. That C. B. Knowlton be cited before this Committee to answer these charges,—1st. Advertising to perform work at extremely low prices, in order to injure competitors. 2d. For inserting teeth in the mouth on plates which he admits are poisonous. That A. E. Lyman, in the opinion of your Committee, is unable to refute the charges brought against him of unprofessional conduct; and he is hereby expelled from the Association.

Report accepted and adopted.

On motion, H. L. Ambler was appointed a delegate at large, to European Societies.

On motion, the Association adjourned to meet at Cleveland, in one year.

HENRI L. AMBLER,

Recording Secretary.



FOREST CITY SOCIETY OF DENTAL SURGEONS.

CLEVELAND, June 1st, 1869.

The first annual meeting of the Forest City Society of Dental Surgeons, was held at the office of Dr. Strickland. The object of this Society is to acquire a better knowledge and development of Dental science and art. To render more successful and complete all operations for preserving and restoring the Dental organism. To elevate members in all that pertains to professional character and practice; bringing them into closer union, for their own benefit and the good of mankind. A proposition for membership must be made in writing, endorsed by two members in good standing. It then lies over until the next meeting, when if they pass the examination of the council, which consists of the officers and three other members, then the candidate, be he not black-balled, pays \$5.00, and signs the Constitution.

The following were chosen officers for the ensuing year :

President, B. Strickland ; Vice-President, B. F. Whitslar ; Recording Secretary, H. L. Ambler, Corresponding Sec'y, Chas. Buffett ; Treasurer, F. S. Slosson ; Councilmen, Drs. Terry, Palmer and Butler.

L. BUFFETT remarked at length upon his successfully treating pericementitis by hypodermic injection of morphia. The matter was made clear by demonstration ; he deserves much credit for his untiring experiments in this direction.

H. L. AMBLER exhibited an artificial nose he had made out of rubber, for a patient who had lost all of his nose, but the tip and a portion of the alæ.

Dr. BUTLER remarked at length upon the action of arsenious acid on the tooth structure and dental pulp. He never uses it for obtunding sensitive dentine, as the result is surely pernicious to the well being of the tooth, destroying its vitality either more or less. He says cobalt is the best preparation for a devitalizer of the pulp, and advises its use.

Dr. SPELMAN said the arsenious acid was taken up by the blood, and poisoned the pericementum, causing inflammation.

Dr. PALMER exhibited some drawings and beautiful models of the teeth, giving appropriate names to all the fissures and cusps of the teeth, with proper indications for filling, in order to restore their beauty and strength. He divides the mouth into four sections, and with his demonstrations of "lines of beauty," the matter is made plain, and reduced to a practical and scientific basis, different from anything we have seen or heard of, doing the author great credit.

The delegates to the American Dental Association, appointed by the President, are Drs. Palmer and Butler.

The meeting was one of profit and pleasure, each taking a lively interest in all the proceedings ; it being one of the charter principles of this society, that drones will not be tolerated.

HENRI L. AMBLER,

Recording Secretary.

Selections.

THE ADMINISTRATION OF CHLOROFORM.—A. M. Rosebrugh, M. D., Surgeon to the Toronto Eye Dispensary, in a paper on "Chloroform and a new method of Administering it," states that he has been conducting a series of experiments with the object of determining the minimum quantity of chloroform necessary for inducing narcotism at different ages, and for different purposes, and to administer the chloroform in such a manner as to gain a pretty correct estimate of the degree of dilution of the vapor that is being administered at a given time. In this he has been successful. His method of administering the anæsthetic is as follows: the patient is placed on his back and a linen napkin placed over the face, so that one thickness only covers it. A two-drachm vial is filled with chloroform; an assistant observes the pulse, and holds the watch in such a position that the administrator may see the second-hand. The administrator assumes a convenient position at the head of the patient, and everything being ready, with the left hand he raises the napkin so that it does not touch the nose, about one and a half inches from the mouth. The chloroform is now carefully dropped upon the napkin over the mouth, a definite number of drops being allowed to fall per minute, commencing with a minimum quantity and gradually increasing until, in the third minute, the maximum quantity is reached. One-third the maximum dose is given during the first minute, and two-thirds during the second. The maximum dose should be continued from two to six minutes, according to the effect of the anæsthetic upon the patient, and the degree of narcotism desired. Where it is necessary to keep up the narcotism for a length of time, the maximum quantity of chloroform may be repeated occasionally—as often as the condition of the patient may seem to require—or about one-half the maximum quantity may be administered continuously. No attempt has hitherto been made to conduct the *guttatim* method so that, 1st. The administration shall commence with an almost imperceptible quantity of chloroform-vapor, and the strength be gradually

increased as the system will tolerate it. 2. After tolerance is established, the administration shall continue with a certain definite quantity per minute until narcotism is established. 3d. The administrator shall be able to ascertain the percentage of chloroform-vapor that is being administered at a given time. In this he claims originality.

To adults, thirty drops per minute is sufficient in most cases. For children eleven or twelve years of age, a maximum quantity of eighteen drops per minute is sufficient. In all cases about one-third the maximum dose is given the first minute, and two-thirds the second minute; the maximum dose never being reached until the third minute from the commencement of the inhalation.

ALVEOLAR ABSCESS.—Prof. Judd (*Missouri Dental Journ.*) treats incipient alveolar abscess successfully by long continued freezing of the parts with Richardson's apparatus. The tooth should be frozen its whole length, which will take from fifteen to thirty minutes. Immediate relief from the pain will ensue, and in many cases it will not return.

ANÆSTHETICS ADVERSE TO UNION BY FIRST INTENTION.—Prof. Frank H. Hamilton, (*N. Y. Med. Record*), expresses the opinion that union by first intention is not so apt to occur after the free use of anæsthetics; and that it "ought to be regarded therefore as one of the many causes operating to the production of suppuration and its consequences." He quotes the opinion of Velpeau, that "after the use of these agents, wounds do not heal so readily by first intention."

CHLOROFORM INHALATIONS IN STRYCHNIA POISONING.—A number of our exchanges report cases of poisoning from strychnia successfully treated by the inhalation of chloroform. In several instances the quantity of poison swallowed was quite enough to cause death, and the inhalations were continued twenty-four hours. Should further trial confirm these results, chloroform will speedily take the place of all other antidotes of strychnia.

IODINE AND ACONITE IN PERIODONTITIS.—Professor Abbott writes: The best remedy, and the one that works the most conveniently for periodontitis, I have ever used, is a mixture of equal parts of officinal tincture of iodine and tincture of aconite root applied to the gum around the roots of the tooth with a camel's hair brush, or a portion of cotton-wool at the end of a stick. I have been using it for a year, and have not found it fail. I apply it, in the early stages of the inflammation, once in twenty-four hours, and in very severe cases twice.—*Boston Journal*, January 7.—(*Quære*: What dose of aconite is administered?)

NEW USES FOR MICA.—Few uses to which mica can be placed have been found up to the present time. M. Puscher lately drew the attention of the Industrial Society of Nuremberg, to the Siberian mica, which occurs in very fine plates, and indicated some new purposes to which it could be applied. When the thin plates of mica are cleaned with concentrated sulphuric acid, and silvered in the same way as glass, they take a lustre similar to that of silver, and being pliable they can be employed in the covering of various ornaments. By heating the thin plates and afterwards exposing them for a very short time in a muffle heated to bright redness, an aspect of matted silver is given. It is necessary to avoid heating the mica too long or too powerfully, since in either case a yellow shade is communicated, as well as great brittleness. The silvery substance formed is distinguished from metals by the property of resisting nearly all re-agents; it is not in the least altered by sulphuretted combinations, by the sun, water, air, concentrated acids or alkalies.—*Chemical News*.

ASSIMILATION OF PHOSPHATE OF LIME AND ITS THERAPEUTICAL EMPLOYMENT.—MM. Dusart and Blache, of Paris, have endeavored to determine the question whether the phosphate of lime enters into the system by the transformations it undergoes in the stomach, or whether it is necessary, for the purpose of assimilation, that it should undergo a previous elaboration in a living organism. The experiments they have instituted appear to show that the solution of the phos-

phate in the juices of the stomach is influenced by the form which the phosphate assumes, for while the hydrated phosphate is rapidly dissolved, calcined bones and hartshorn are not sensibly dissolved; and specimens containing carbonate of lime are dissolved only imperfectly. Messrs. Dusart and Blache, therefore, propose, as the best preparation for assimilation, the hydrated phosphate which has already been subjected to the action of the gastric acids, and which they call *lacto-phosphate of lime*. This substance has an agreeably acidulous taste, and is readily digested. Experiments were made upon some of the lower animals, with a view of determining whether the repair of fractured bones was accelerated by the internal use of the phosphate, and it was found that such was really the result. Under the use of the *lacto-phosphate of lime*, Messrs. Dusart and Blache, found that the increase in weight of the bones of the animals exceeded by more than 33 per cent. the weight of the animals subjected to ordinary treatment. The animals chosen for the experiment were guinea-pigs.—*British and Foreign Med. Chir. Rev.*

ALCOHOL AS A DRESSING TO WOUNDS. By W. F. McNutt, M. D.—The advantages claimed for alcohol as a dressing to surgical and traumatic wounds are, that in recent wounds it coagulates the soluble albumen on the surface of the wound, corrugates the tissues, and contracts the small vessels, thereby preventing the accumulation of blood or serum between flaps or the edges of wounds, which would necessarily prevent primary union.

Applied as a dressing to granulating wounds, it acts as a local stimulant, prevents largely the formation of pus, lessens the chances of the patient's having pyæmia, is an excellent disinfectant, and possesses the advantage of being a stimulant to the genetal system.

HYPOPHOSPHITES IN THE TOOTH-ACHE OF PREGNANCY.—Dr. W. H. Sterling, of Burlington, N. J., (*American Medical Journal*) had a patient who was seized during pregnancy with severe tooth-ache, and rapid decay of the teeth. After the failure of other remedies, and acting on the idea that the "bone and nerve forming elements in her system were not sufficient for both fetus and mother," he prescribed the hypophosphites of lime, soda, potassa, and manganese, in two

grain doses each, three times daily, in the form of glycerole. "The relief was immediate and permanent, the pain entirely removed, and the decay of her teeth was arrested, and her general health very much improved, with the renewal of her physical strength and mental vigor."



CLASSIFICATION OF BOSTON DOCTORS.—The editor of the *Boston Med. & Surg. Journal* has been taking the census of the profession in his village, and finds 574 claimants of the title. Of these, 275 belong to the regular army, 13 are eclectics, 46 are skirmishers who load with infinitesimal globules, 60 are attached to the crinoline department, and 180 are bushwhackers. Among the latter are electric, botanic, magnetic, sympathetic, mesmeric, clairvoyant and cancer doctors, 2 "natural" bone-setters, 1 who practices "natureopathy," and 1 "Baunchedismus."



A NEW GROWING SLIDE, which is simple and convenient, is described by Mr. J. C. Muller, in the *Monthly Microscopical Journal* of March. Any ordinary glass-slide is pierced with a minute hole, at about three-tenths of an inch from the centre on one side. When an object under investigation is put upon it immersed in water, the thin glass cover is so placed as to include this hole, which may be near the margin of the disc. When it is desired to keep the specimen moist while off the stage of the microscope, the slide is placed in the undermentioned piece of apparatus; viz., a flat trough 7 inches long, $2\frac{1}{2}$ inches wide, with straight sides, $\frac{3}{4}$ of an inch high. In this slide is placed uppermost, with one end (that nearest the hole) resting against the bottom of the vessel on one side, and the other end resting upon the edge of it. Sufficient water is put into the vessel to admit of the liquid reaching within a quarter or half an inch of the glass cover on the uppermost side, when it will be found, that by capillary attraction, the water on the underside reaches beyond the center of the slide, and consequently beyond the hole with which it is pierced. In this state the object will remain moist as long as the trough contains a sufficient quantity of water. When required to be placed on the stage of the microscope, the water is easily wiped off without disturbing the object.

ON THE USE OF THE CHLORIDE OF GOLD IN MICROSCOPY:
By Thomas Dwight, Jr., M. D.—Perhaps no re-agent has of late years played so important a part in microscopy as the chloride of gold. By means of it Conheim first demonstrated the terminations of the nerves of the cornea; and since it has been very generally used, particularly in investigations of the nerves. Its application is very difficult, and it is only after a long series of experiments and failures that proficiency is obtained.

Having had considerable experience with this re-agent in the laboratory of Professor Stricker, in Vienna, and having obtained some very satisfactory results, I hope that a few words on its application may not be out of place. The chloride should be dissolved in distilled water, and the solution should never be stronger than the half of one per cent. The object to be examined should be as fresh as possible, and should remain in the fluid from three minutes to perhaps an hour, according to its affinity for the re-agent, during which time it assumes a pale straw color. If the piece be small enough to be readily acted upon, ten or fifteen minutes is almost always sufficient. It is then laid in distilled water, to which just enough acetic acid has been added to give it the faintest possible reaction. In two or three days it will have become purple, verging sometimes on blue, sometimes on red; the latter is the least favorable. The preparation is now enclosed in glycerine, and improves for several days as the color becomes deeper and as the finest fibres are the last to be affected. If the experiment has succeeded, for it sometimes unaccountably fails, the picture presented is one of the most beautiful that can be imagined. The nerves, muscular fibres and fibrous tissue appear black on the purple background. Epithelial cells are also colored, but not so well as by nitrate of silver.

Although the color makes fibres visible which are so fine that they can be seen by no other method, it does not determine their character. To prove beyond all doubt that a minute fibre is a nerve, we must be able to follow it to a larger branch. On a very successful preparation of the cornea of a frog, I observed nerve fibres of such minuteness that with a magnifying power of nearly two thousand diameters it was impossible to follow them to their terminations. I particularly endeavored to verify the connection, asserted

by Kühne but not generally accepted, between the nerves and the corneal corpuscles. With every advantage, such a connection is very difficult to prove. I often thought I had found one; but, when examined by a higher power, and placed in different lights, it proved to be only apparent, except in a single instance, and then it was not certain that the fibre in question was a nerve. I mention these facts as proofs of the value of the method, for it is no paradox to say that the better the preparation the more difficult it is to obtain results. As the magnifying power is increased, elements come into view, which, by inferior methods, are never seen; and spaces are discovered between bodies supposed to be in connection. The use of the chloride of gold, however, is not yet thoroughly understood, and offers a large field for original investigation.

NEW MODE OF PREPARING OBJECTS FOR THE MICROSCOPE.—M. Rauvier proposes (*Archives de Physiologie*) a new and simple method, which consists in the employment of picric or carbazotic acid. This acid is only moderately soluble in water, and a saturated solution may therefore be employed. It possesses the further advantage of being very cheap. It is admirably adapted for all tissues containing much blood, and therefore for specimens of liver, lung, etc. It appears to act by effecting coagulation of the albuminous substances, though, unlike alcohol and chromic acid, it does not occasion any fusion of the constituents of the tissue. The red globules retain their form and characters extremely well. The portion of tissues required to be examined should be plunged into the solution, and after the lapse of twenty-four hours it will be found to have acquired sufficient firmness to permit of very fine sections being made with a razor. The saving of time by this method as compared with the chromic acid is immense. The preparations will take color from carminate of ammonia, and may be preserved in glycerine.—*Lancet*, Nov. 21, 1868.—*Med. News and Library*.

THE FIRST PHYSICIAN IN MASSACHUSETTS.—Dr. Samuel Fuller, the physician of the Mayflower, was the first disciple of Galen mentioned in the history of Massachusetts.

TREATMENT OF DISEASED GUMS.—A writer in the *London Lancet* recommends the following treatment of diseased gums: The teeth should be washed night and morning with a moderately small and soft brush; after the morning ablution, pour on a second toothbrush, slightly damped, a little of the following lotion, and apply it to the affected parts: Carbolic acid, one scruple; rectified spirits of wine, two drachms; distilled water, six ounces. By the use of this preparation, suppurative action is kept under, and the gums get firmer and less tender.—*The Medical Record*.

THE anatomical museum of the St. Louis Medical College was destroyed by fire recently. It was the richest and most valuable of its kind in that section of the country. No insurance on it. We presume the loss included Dr. Pope's extensive and valuable private collection.

HYPODERMIC METHOD OF INJECTION.—The following is the *therapeutical portion* of the report of the committee on this subject of the Royal Medico-Chirurgical Society, a committee which embraced among its members such men as Savory, Henry Lee, Holmes, Durham, and its conclusions may be regarded as the best and most recent authoritative teaching we have in reference to hypodermic injections. We copy it from the thirty-second volume of the *Medico-Chirurgical Transactions*, London:

In this portion of their report the committee have drawn their conclusions as to the therapeutical advantages that distinguish the subcutaneous method of injection from experiments with a few active medicines, and though the list might have been extended, it must be borne in mind that many valuable drugs can not be used in this way, on account of the irritating properties they possess.

The intensity and the rapid sequence of effects which have already been shown to characterize the hypodermic method of administering drugs are important advantages, which are readily appreciated by the patient; and the dread which the slight operation may have caused at first is soon overcome when once the resulting benefits have been experienced.

In the relief of pain this method of introducing anodynes offers superior advantages to those in ordinary use; and in cases of delirium, of mania and of tetanus, where there is

resistance or impediments to the ordinary modes of administering remedies, subcutaneous injection secures not only quickness of action, but also certainty as to the introduction of the drug.

Much difference of opinion exists on the question of localizing the injection. Cases have been communicated to the committee from which the superiority of local injection has been maintained; but although they have performed many experiments in reference to this question, the committee have failed to obtain any evidence to show that the local predominate over the general effects. They must therefore express their opinion that, though no symptom results from injection at the part affected, which is not shared equally by injections at any other part of the body, yet practically it may be advantageous to localize the injection for the sake of those effects upon the mind which localization will sometimes produce.

Injections may be repeatedly practiced in the same locality without any serious or permanent injury to the part. Mr. Roberts injected himself many times successively, in a very limited area, without any worse result than temporary thickening and irritation.

The committee have endeavored to procure details of untoward results following subcutaneous injection. One or two other cases have come to their knowledge, but of these they have been unable to obtain any satisfactory account.

The following are the results of their experiments on man in disease with aconitine, atropine and morphine:

Aconitine.—This drug was tried in three cases of neuralgia, but the local tingling which followed the injection was so severe that the drug was considered unfit for subcutaneous use. In one case, in which the neuralgia was of an hysterical character, the pain was relieved; in the other two cases, no alleviation was experienced. In the first case, 1-100th grain was used; in the others, 1-320th grain and 1-216th grain.

Atropine.—The anodyne properties of this drug are exhibited in a marked degree in subcutaneous injection.

In cases of simple neuralgia, atropine, when thus administered, is a very valuable remedy, and, in some cases, where morphine procured only temporary relief, the benefits derived from atropine injections were permanent. Very decided results were observed to follow minute doses of the drug used in this manner.

The pulse was accelerated to a considerable degree in one case, when 1-160th grain only had been injected. A larger dose should be given in cases of severe neuralgia, and the most satisfactory results were found to follow when decided toxic effects were manifested.

The discomfort (the excitement, the dry mouth, and the occasional disagreeable action on the bladder) experienced during the action of this drug presents a considerable hindrance to its general use. The cases in which atropine was used with advantage where cases of local neuralgia, lumbago and sciatica.

The initial doses are the eightieth of a grain for a woman, and the sixtieth for a man, but in cases of severe neuralgia larger doses may be given with safety. The largest dose mentioned to the committee was one-tenth of a grain.

Morphine.—The value of this drug is materially enhanced by this method of administration, and its action is not only secured with greater intensity and rapidity than by the ordinary modes, but the duration of its effects is prolonged, and some patients can tolerate it far better when it is injected under the skin than when it is given by the mouth.

Injected subcutaneously, this remedy does not invariably lose its virtue by repetition, and instances have come to the knowledge of the committee where the injection has been repeated daily for a number of years without the dose being augmented. Mr. Roberts expressly states that, though the injections were repeated in his own person more than a hundred times, the dose was never increased beyond two-thirds of a grain, and a smaller quantity was often found sufficient.

To confirmed opium-eaters, this method has been found of much service, smaller doses than those previously taken by the mouth being requisite. The largest dose mentioned by the committee was given to such a patient; as many as eight grains of the acetate were injected in this case.

Patients suffering from cancer have derived much benefit from the use of subcutaneous injections. Mr. Reeves mentions that from six to eight grains were injected in one case daily for a considerable period.

In allaying pain, the virtues of this drug are decidedly increased by injection, though the effects are not always permanent.

In cases of delirium tremens this method is often extremely useful, and in some instances were found to succeed where

the introduction of the drug by the mouth failed; in a few instances, however, it seemed to have a negative result.

From the few cases of mania treated by injection that have come under notice, it would seem that this method of giving morphine is not altogether free from danger; in one case of mania the injection of half a grain proved fatal, and the same dose narcotized another patient for four days.

The initial dose for an adult man, under ordinary circumstances, is from one-sixth to one-fourth of a grain; for a woman it should be smaller—from one-eighth to one-sixth.

A few other cases where alarming symptoms have arisen from the injection of morphine have been forwarded to the committee. Briefly stated they are the following:

One-quarter of a grain in a man, not fatal.

Twenty-five minims of the liquor morphiæ acetatis, equivalent to five-twelfths of a grain of morphia, produced narcotism in a man, not fatal.

A quarter of a grain in a young lady twenty-four years of age, not fatal.

In those cases of mania already alluded to:

Half a grain in a woman suffering from acute mania, not fatal.

Half a grain in a similar case, fatal.

In some hospitals it has been the practice to inject a small dose of morphine after operations, for which chloroform has been used; the injection being made before the effects of the chloroform have passed off. It was stated that the sleep is prolonged by these means and the after effects of chloroform prevented, but from the experience of the committee on this point it would seem that the sickness following the use of chloroform is not always prevented by morphine injections, though it may be retarded.



JAPANESE DENTISTRY.—They have dentists in Japan, who evidently do not enjoy the benefits of Dental Associations and journals. The Japanese are a remarkable people; their jugglers are unsurpassed; but commend us not to their dentists. Their manner of extracting a tooth must be tempting to their patients, and reminds one of the method of removing a rusty screw. The tooth is tapped with a mallet, until it

can be extracted with the fingers; pleasantly suggestive of an amount of malleting which we should think would not commend Japanese dentistry.

DEATH FROM HYPODERMIC INJECTION.—Lantesson reports that he saw a child die in a few moments with convulsions, after he had injected several drops of liquor ferri sesquichlor. for nævus maternus. Dissection revealed large coagula in the roots of the great veins at the heart and in the right auricle and ventricle. He supposes that a vein of some size was wounded, and that the astringent thus got into the general circulation, coagulated the blood, and finally produced paralysis of the heart. He recommends that the flow of blood into neighboring venus plexuses should be prevented by pressure when we perform this operation.—*St. Louis Med. Reporter.*

HARTFORD, CONNECTICUT, June 10, 1869.

EDS. DENTAL REGISTER: The ninth annual meeting of the American Dental Association will be held at Saratoga Springs, New York, commencing Tuesday, August 3, 1869, at 10 o'clock A. M.

The following form of certificate was adopted at the last meeting of the Association:

"This certifies that ——— was duly appointed a delegate to the American Dental Association on the — day of —, 18—, by the Dental Society of ———, and that said ——— is a Dentist of good character and standing and at this time in regular practice."

No delegate will be admitted without he answers the requirements of this certificate, which he must bring with him, and present in person.

Accommodations will be secured for those giving early notice to Dr. J. G. Ambler, No. 25 West Twenty-third St., New York City.

There is reason to anticipate a profitable and enjoyable session, and it is hoped that representatives from every local society in the United States may be present.

JAMES McMANUS,
Cor. Sec. American Dental Association.

Editorial.

CALCIFICATION OF TOOTH PULP.—Recently Miss L., aged 21, of nervous, sanguine temperament and general good health, called for consultation in reference to her two superior central incisors. About four years before, they had received a blow which partially loosened them; they were quite sore and painful for a few weeks, and then recovered so far as to be used with a tolerable degree of comfort. The left tooth soon changed somewhat in color; and the presumption was that the pulps of both were devitalized. Two years and a half after the accident, the teeth began to change position, the cutting edges being thrown forward against the upper lip, disfiguring the mouth very much.

In consequence of this, together with constant soreness, which had existed for several months, it was decided to remove them, which being done nothing particular was observable, further than had been shown before extraction, the left tooth showing some change of color, but the right, none from that of a healthy tooth.

Through inadvertence, the crown, of the latter, a day or two after extraction, was broken into three or four pieces, breaking off at the neck of the tooth; the pulp was found to be completely calcified, entirely filling the pulp chamber; it did not break; the fragments of the crown parted from it, leaving it standing perfect, tightly imbedded in the canal of the root so firmly that it can not be drawn out with the fingers. This is the only case of the kind we have ever seen, and is a very marked illustration of a process upon which very little attention has been bestowed, and about which not much is known.

We were recently presented by Dr. Cushing, of Chicago, with a section of tooth in which the calcification of the pulp was complete; but it was perfectly united to and continuous

with the dentine all round the walls of the pulp chamber, which was obliterated thereby.

This is clearly a calcification of the pulp, and not a deposition merely of calcific matter upon the walls of the chamber, for the structure of the pulp is clearly seen in the tissue. We shall have sections of each mounted for microscopic examination, when we shall perhaps have something further to say in reference to them. T.



“A SPEECH.”

AT the close of one of M. Blondin's rope exhibitions at Niagara, as he came to shore, pale and fatigued, hundreds saluted him with the cry of “*à speech !* A SPEECH!!” To them it mattered not that he had performed on the rope, many, and more daring feats than he had promised. Unless he could make a speech, then and there, he was in their eyes an impostor. And they were not singular in their sentiments. So universally has this idea of speech making taken hold of us, that we no longer hail each other with the good old interjection, Ho! But instead, we call out, SAY! Indeed, it is rumored that at a late “*seance*,” the ghost of a grand old prophet was called for, and instead of his sublime, Ho! every one that thirsteth,” he rapped out, “*Say! Mister, 'll y've somethin' to drink?*” And so imperative has this sentiment become that most persons, when called on, by voice or circumstance, feel obliged to “say” whatever they are able to say at the time, whether it be sense or nonsense. And if our worthy President and Lieutenant General succeed in persuading the American people that making speeches is not essential to good manners, reputation, or success, they will be entitled to the lasting gratitude of the nation. We have been led to these reflections by observing that a “friend of our better days” has had a speech forced out of him when there was none in him, or at least none on the subject under consideration.

Elsewhere we have noticed that a Dental College has been organized at Chicago, a step in the right direction, if the proper *stand* is taken after the step. In the “Missouri Dental Journal” we find an address, on the occasion, by one of the newly ap-

pointed trustees, R. L. Rea, M. D. We knew Dr. R. when he was a ploughboy, and he was a good ploughboy; knew him when a school-teacher, and he was good there; when he was a physician, a professor, etc. And we have watched him with interest through all; and we happen to know that he is totally unacquainted with the formation of and course of instruction usual in Dental Colleges, and if we had not known it, this abortive address, a result of Mrs. Custom's periodical pills, perhaps, would have given us the information.

As all men do when forced to speak on a definite subject without a knowledge of the facts relating to it, our friend starts out hit or miss; and in reading his address we are reminded of the precaution of the Irish boy at the shooting-match. So wild were the aims, he concluded the only place of safety was in front of the target.

The doctor gives reasons for the new enterprise. The first is CHICAGO; and we give in to that, for there she stands. Another is, "the palpable necessity there is for a higher standard of Dental education." Certainly. But shouldn't Chicago start a few more medical colleges? For the standard of medical education in America is far below that of Dental education. We have had vastly better opportunities for making a correct comparison than Dr. R.; and we are sorry that truth requires such an assertion.

The address states farther, "It is notoriously true, that a large majority of the members of the Dental profession are not only ignorant of the primary and essential facts in medicine, but are allowed to graduate from Dental Colleges in deplorable ignorance of the principles of medical science." And if the word *medical* were substituted for "Dental" in the above sentence, it would be quite as elegant and certainly as truthful; and we can join our friend, let it be stated either way, in saying, "This is not as it should be."

And this speaker who has had no opportunity whatever to learn anything in regard to the course of instruction in any Dental school, and who knows quite as little in regard to the tastes and habits of Dental students, goes on to say, "The apt and elegant apparatus needed, the perfect and beautiful adjustment of parts occupies so large a portion of the time of the

student, that they soon engross his entire attention, and supplant the proper groundwork of anatomy, physiology, pathology, etc." Now, if he had inquired of a fellow *alumnus* who was a physician when he was a schoolboy, and who has been a Dental teacher longer than he has been a physician, he would have learned that Dental students are inclined to *neglect* the mechanical, for the sake of the "groundwork" sciences to which he refers. And he would have learned that Dental mechanism, though admitted to be of importance, receives but a small portion of time and attention in any Dental school.

"Comparisons are odious;" but in what medical school is each candidate subjected to from two to five hours written examination on each department, after a rigid oral examination, and a winter's "quiz," with the condition that seventy-five per cent. of correct answers are required on each department? And how many medical schools make a satisfactory examination in the junior studies a requisite to admission to the senior course? And how much did medical schools do for Dental Surgery in the years preceding the era of Dental schools? Not half the medical graduates that we have had occasion to talk with on the subject, know a permanent from a temporary molar. Scores of them have brought their children to us to have the six-year molars extracted, under the impression that they were temporary, and would soon be replaced.

The first Dental school, in the first ten years of its existence, did more to advance and improve Dental surgery than all the medical schools in the world have done since the dawn of science. Yet this is one of the institutions so ungrammatically denounced in the address.

Another Dental school has had among its teachers several of the most renowned and efficient professors of the speaker's *alma mater*, and has now a goodly proportion of her older *alumni* in its faculty, and they all *knew*, from the start, what this new-fledged trustee begins already to suspect, viz.: "that it should be the duty of Dental colleges to require something more than a simple knowledge of the jaws," etc.

The Dental schools, as a general thing, are conducted by men well versed in medical science. Many of them are graduates from medical schools, but these are not superior to those who

are not. And physicians should remember that society is indebted to Dentists, as such, for anæsthesia, both general and local, while, so far as Dental surgery and therapeutics are concerned, it owes the medical profession for the turnkey and mercurial pyalism.

Now, if Chicago will carry on a good Dental school, we shall rejoice. There are some in the board of trustees that could have said as much in favor of a Chicago school without murdering both grammar and rhetoric in denouncing others; and it was cruel in them to let our friend expose himself as he did.

A sensitive student had been reprimanded and appeared vexed. A comrade tried to console him. He replied, "O, I don't care for the reprimand; but I hate to be scolded in *bad grammar*, by a PROFESSOR.

Our friend never talks that way on a subject he understands.

W.

ANOTHER RUBBER PATENT.

ON the 19th day of January, 1859, Letters Patent No. 85,927 was granted to Robert Haering, for "*An Improved Mode of Mounting Artificial Teeth*."

The description as given by Dr. Haering in his specifications are as follows, viz.:

My invention relates to an improvement in securing artificial teeth upon bases or plates of hard or vulcanized rubber or other gum.

In order to enable others skilled in the art to practice my invention, I will now proceed to describe the manner of carrying it into effect.

A plaster cast of the mouth to which the teeth are to be fitted, is first made. A coating of wax, corresponding in shape and thickness to the "base" required, is then applied to the cast and round the bases of the teeth, which are thus held in their proper position.

The teeth and base are now covered with plaster, which is applied in a soft state, but soon hardens, forming the second division of a mould, the other part of which is the cast first made.

After the portion of the mould last made has hardened, the two divisions are separated, the wax is removed, and prepared

rubber is substituted for the same, the sections of the mould being brought together so as to force the gum into all the interstices formerly occupied by the wax.

The mould is then placed in an oven and subjected to heat for such a length of time as may be necessary to harden the gum.

When the operation is complete, the plaster is broken away and the teeth will be found securely "set" or "mounted" on a base of gum, which is hard, tough, corresponds in shape to the wax base first made, and possesses many advantages over bases made of ordinary materials.

Without here claiming broadly the application of hard rubber or gum as a base for artificial teeth,

I claim as my invention, and desire to secure by Letters Patent,—

Artificial teeth, having gum bases, to which the teeth are secured, as described; that is, by "setting" the teeth in prepared gum on a mould, embedding the whole in plaster, and hardening the gum by the application of heat.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

ROBERT HAERING.

Witnesses :

SAM JOHN STORRS,

JOHN A. FOSTER.

This patent as we understand it, covers the ground claimed by the patent of J. A. Cumings, and now held by the Dental Vulcanite Company. We are not advised as to priority; and as there has been no proceedings to determine this matter that we are aware of, we presume they must be twins. Both are calling lustily for recognition by, and support from the Dental profession, at the same time threatening all who dare infringe. We would advise the profession, in order to be perfectly secure to take out a license under each, and then all will be right till *another* patent is obtained for the same thing. Pile it on, gentlemen; the brethren of the Dental profession are long-suffering. We are in favor of Patents in our profession; if any man gets a patent, especially if it

be for something already patented, a general exchange might be made and all come out square.

We have been asked many questions in reference to these patents, and all we have to say is, gentlemen, buy every patent that comes along, especially if it has any thing to do with rubber?
T.



SUSPENSION OF THE N. Y. COLLEGE OF DENTISTRY.

The difficulties that have for some time existed between the Faculty and Trustees of this institution have resulted in its dissolution. This will be regretted by every true lover of our profession in the country. We hoped in the beginning that the New York College of Dentistry would increase in favor, prestige and efficiency till it should fully meet the wants of the profession in an educational point of view. New York is the metropolis of the country, and on account of its situation and advantages will continue to hold that position. There is gathered there a larger number of the strong men of the profession than at any other point; and, indeed, all the facilities for constituting a large and efficient institution certainly exist in New York. Out of the ashes of this we hope another may spring that shall be free from the disabilities that have proved so fatal; one that shall receive the sustaining care and strong support of the profession of that vicinity.

In reference to this subject we give place to the following from the *American Journal of Dental Science*:

"We regret to learn that the New York College of Dentistry no longer exists, its charter having been annulled by the Supreme Court of the State in an action brought by the Attorney General. This action was instituted on a presentation of the condition of the college by a member of the Faculty, who considered the acts of a majority of its Board of Trustees to be in direct violation of its charter.

"The case came up before Judge Cardozo, and an injunction was granted and a receiver appointed to take charge of the property of the College on the 22d of April last.

"Previous to any steps being taken to annul its charter, no less than six of the most prominent members of its Board of Trustees resigned.

As we are well acquainted with the untiring efforts of its former faculty to make it worthy the support of the profession, and of the pride they felt in its welfare, we deplore its fate and deeply sympathize with those who have expended so much time, labor and means in its behalf.

This is the second College of Dentistry which has been organized in the State of New York, and we had hoped that, unlike its predecessor, its career would be a long and prosperous one.



THE BOSTON DENTAL COLLEGE.

The following we take from the *Boston Daily Advertiser* and publish, that our readers may know the true state of the matter. Rumor will usually very much color such things. It is a matter of regret that there was an occasion for any such proceedings, and yet it is gratifying to know that there is a disposition in the minds of some to correct irregularities.

Perhaps there has been, in nearly all existing Dental Colleges, too much laxity in the matter here complained of. We make no charges in this respect. We feel confident that the wants of the profession, in an educational aspect, requires a higher standard than at present exists.

SUPREME JUDICIAL COURT—SUFFOLK, SS.—June 19.

COLT, J.—*The Attorney General by Relation vs. The Boston Dental College et al.*—This was an information at the relation of John P. Ordway and others, constituting a minority of the Board of Trustees of the Boston Dental College, to restrain the respondents, the majority of the Board, from conferring the degree of "Doctor of Dental Surgery" upon certain candidates who have been recommended for such degree by the faculty of the College. By the act of incorporation, passed June 3, 1868, the Trustees of the College have authority to confer the degree of "Doctor of Dental Surgery" upon candidates therefor who, upon satisfactory examination by the faculty, have been recommended to the trustees for the degree, provided the candidates shall have devoted three years to the study of Dentistry with a practitioner of Dental Surgery, who shall be approved by the faculty, or shall have been in the practice of Dental Surgery for eight years, *including two full courses of lectures*, the last of which to be pursued in the Boston Dental College.

At the hearing on Saturday, on a motion for an injunction, it appeared that the college was opened for the instruction of students, in the month of September last, and that it has been in

operation about ten months, but that during this time the students have attended lectures in the afternoon and evening, so that as alleged by the majority of the trustees they have attended "two full courses of lectures" within the meaning of the act of incorporation.

It was, however, contended on behalf of the complainants, the minority of the trustees, and evidence was offered to show that, according to the usage of all Medical and Dental Colleges, only one "full course" of lectures can be attended by a student during a single academic year, and that accordingly the candidates who have attended lectures but ten months have not attended "two full courses" of lectures within the meaning of the act, that the conferring of the degrees will defeat the purpose and be contrary to the desires of the persons who have contributed money for the support and uses of the college and will not promote the advancement of Dental science and art.

After hearing the evidence the judge ruled that the words of the charter must be construed according to the usage of other Medical and Dental Colleges, and that when so construed the words "two full courses of lectures" mean courses of lectures extending over two academic years.

The injunction was accordingly granted, and it being the purpose of the parties merely to obtain the opinion of the court upon the true construction of the charter the injunction was by consent made perpetual.

A. A. Ranney for the complainants, and B. E. Perry for the defendants.

THE DENTAL REGISTER.

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Original Communications.

THOUGHTS AND EXPERIENCES ON CHLORO-NITROUS OXIDE FOR ONE WEEK.

BY R. N. LAWRENCE, D. D. S.

The record of the thoughts and experiences of our professional brethren, the many minor points wherein one practitioner differs from others, reports of cases in practice—in short, to “give in our experience” forms to me the most profitable and interesting part of our Dental literature, and I would that more of the brethren would tell us of their successes and failures. We expect that many truths, and familiar ones, must be often repeated. Experiences in every day practice, even if there be nothing startling or novel, are generally eagerly read. I confess that I am always desirous to have my fellow practitioners to give in their experience and I mine, and always feel benefited thereby. But of late, when about to seek for more light, I always ask, “Have you a patent on your ideas, sir.” (You are aware, Mr. Editor, it is fashionable now days to patent very small things.) It does seem to me this is not the proper spirit to be exhibited by

professional gentlemen, who desire the success and advancement of our noble specialty. Our present standing is due, in a great measure, to the charity and freedom with which scores of great minds have sown broadcast for all the priceless truths they have discovered in developing our specialty. Then let us not wrap the mantle of selfishness about this little microcosm and say, "Patent applied for"—pay me ere I impart the great secret. In looking over the journals of the past few months we find numerous questions agitating the profession from the rubber question down to chloro-nitrous oxyd. An article in the February number of the REGISTER drew my attention to chloro-nitrous oxyd. I proceeded to try its merits by taking an oz. bottle, with a wide mouth, putting in it a piece of sponge; this bottle I attached to the tubing next the gas receiver, the mouth of the bottle opening into the tube just over the entrance to receiver; when the gas began to come over I took $\frac{1}{4}$ dr. of chloroform and 1 dr. of alcohol, and mixed and put into the bottle; then the gas passed through the sponge and the chloroform vapor mingled with it. On breathing it I found it strongly impregnated with chloroform. I administered it to nine patients in all, and the majority of them complained of after effects, similar to that produced by chloroform. I found that it induced anæsthesia in much less time than nitrous oxyd alone, and also prolonged it, and that recovery was not as speedy as when gas is used.

1st case. A strong, healthy man of bilious temperament. I heard no complaints from him.

2d. A young man of bilious temperament; complained of an intense feeling of internal restlessness and mental images were conjured up.

3d case. An old gentleman of nervous temperament, to whom I had before administered gas. This combination acted very rapidly and the anæsthesia was more profound; showed pallor of the countenance. The cessation of respiratory activity, as announced by stertor, was very sudden,

and a slowness of the pulse following, not observed when the patient was under the influence of pure gas alone.

4th case. A young lady of sanguine temperament; passed into the stage of insensibility very quickly; no peculiar changes observed, but she afterward informed me that she was troubled with a "splitting headache," and felt badly for hours after leaving the office.

5th case. Young lady of nervous temperament; came from the office of a neighboring practitioner who failed to extract the tooth desired; suffering intense pain; I applied Phenol Sodique in and about the tooth and waited a few minutes, then proceeded to administer the gas. The patient was very restless and the senses abnormally excited; convulsive movements and mental disturbances continued during the whole period of anæsthesia.

6th case. A lady of some 35 years of age; nervous-sanguine temperament; brought in by her family physician, who had been treating her for neuralgia. She was very much excited when she came, but passed into insensibility with no marked symptoms, more than a degree of wildness and sobbing when returning to consciousness. I saw her in a few days after and she informed me that in an hour or two after leaving the office she was attacked with a congestive chill, that her limbs became cold and lifeless, and her friends had to apply warm applications, friction, &c., to keep her alive.

7th case. A stout hearty man. No trouble or after indications.

8th case. A middle aged lady of nervous-bilious temperament. Afflicted with neuralgia and in an anæmic condition; had been troubled with heart disease for many years; any sudden excitement or labor would bring on the manifestations; she came for the special purpose of having gas administered; I declined to give it, informing her that no anæsthetic should be used in her case; herself and friends thought it would do no harm; my partner was of the opin-

ion we had better try it; I told her I would allow her to breathe three or four inspirations and see how it effected her; she did so, I watching the countenance and pulse closely; there was complete muscular quietude, but a great pallor of the countenance, lips colorless and the pulse lowered rapidly; I stopped the gas; she lay in a sort of stupor; I asked her if she felt any pain or annoying sensations in the throat, lungs or about the heart; said no, but she felt paralyzed and lifeless; thought she could go to sleep very easily. I gave her brandy; she revived and became quite talkative after I had given her two drinks of brandy; I then proceeded to extract the teeth; had no trouble; gave brandy at intervals; she went away and was feeling quite well next day.

9th case. A healthy young man; no trouble arising. This is my last with chloro-nitrous oxyd. I have lost no faith in nitrous oxyd, but do not propose to risk its reputation by allowing it to keep bad company. I have no desire to have an exhibition of *facies hippocratica* before me, and the only way to avoid censure, and, above all, to remain at peace with one's own conscience, is to discard a dangerous agent which puts to trial the fearful issue of life or death.

I would like Prof. Watt or Cutler to inform us if, in the combination of nitrous oxyd gas and chloroform vapor, the mixture is mechanical or chemical.



CONTOUR FILLINGS—WHEN ARE THEY INDICATED?

BY H. L. SAGE, BRIDGEFORD, CONN.

Although some diversity of opinion may exist relative to the *when* and *where*, in considering the indications of contour filling, I trust no apology is necessary for presenting a brief *resumé* of the cases in which such indications exist. In coming to a conclusion much judgment may be required in

what may, at first sight, appear a plain case. Whether or not we are, in some cases, to shock the good taste of nature-worshippers, in order to avoid a greater and more serious calamity. The aim in the construction of the artificial seems to be to counterfeit nature so closely as to place its false character beyond detection, at least by the mere casual glance of the eye. Hence, the objection that obtains in the minds of many to any thing that falls short of such a standard, and hence the objections to contour fillings. Health, comfort and permanent good are often sacrificed to this false pride; so much so, that many prefer to lose those valuable and useful organs, the teeth, in order that they may be replaced by artificial substitutes *in full*, that do not show to the unskilled eye their true character, rather than to have a portion of the lost structure replaced in a more useful and enduring way, because it shows an infringement of the pleasing in nature. Do these patients ever consider what they would be if deprived of their gold and porcelain? "Between two evils choose the least," though the greater may not be so apparent as it really is. Every honest Dentist knows how hard it is at times to persuade a patient not to sacrifice his or her teeth to the "tender mercies" of the mere mechanical manipulator. And if he lives up to his duty and refuses to compromise his convictions in this respect, he must not unfrequently expect to exchange a prospective pecuniary reward, for self respect, and "a conscience void of offense." The rule should be, conceal the artificial character of your operations as much as possible, but not at the expense of the future welfare of the organs you attempt to save.

But to revert to the question under consideration, I would suggest that contour fillings are indicated, first, when the borders of the cavity are so frail that there is danger of fracturing the enamel in putting in the filling, notwithstanding requisite care be used, or there would be a probability of its breaking away from the filling after its insertion, by the

ordinary mastication of the food. In such a case it is much the best plan to cut away the frail edges and restore to the original shape with gold, *i. e.*, sacrifice beauty to strength and durability, and in the long run to comfort. When the extent of the cavity does not necessitate the cutting off the approximal surface at the point, but it takes on the usual semi-circular shape, and the labial and lingual walls are very thin—so much so as to make it unsafe to leave them, owing to the dangers above stated—in that case it is best to cut away with a fine, half-round file, until strong borders are secured and then restore with gold.

Second—Contour fillings are indicated when, in the case of the incisors or canines, much space is left between them by the decay of the approximal surfaces, thus interfering with speech or destroying the natural symmetry of the teeth.

Third—In the case of the bicuspid and molars, when much of the tooth structure is broken away or the borders of the cavity are frail, and it is desirable to obtain as much grinding surface as was had in the original shape of the tooth.

Fourth—In almost all cases when the dentine would be exposed to the chemical action of the fluids of the mouth, thus inducing decay; and if it is admissible to leave it exposed at all, which is questionable in the majority of cases, the front teeth would constitute the exception. Generally speaking, the borders of the cavity, when the enamel has been cut away and the dentine exposed, (which should never be done unnecessarily) should be protected by building out and lapping over, more or less, according to the requirements of the case. If left without protection, as in the case of the front teeth, the dentine should be highly polished by the usual methods.

When are contour fillings *partially* indicated?

First—When, in the case of teeth very much crowded, it would not be necessary to build out the tooth to its original shape fully, but only enough to serve as a protection to the dentine, though much of the structure is lost.

Second—In cases of grinding teeth when three fourths, say, of the crown is gone, one approximal surface, for instance, being perfect, and it being very difficult, by reason of the close proximity of caries to the nerve, to obtain sufficient retaining points to render a large filling firm in its attachments. Then build it out no more than is compatible with safety or strength, for the more surface you expose to friction, in such a case, the more liable would the filling be to loosen or fall out.

It is my practice to make a square cut across the frail border, from the labial to the lingual surface, semi-circular or straight, as the case may require, leaving the edges quite smooth, but not beveled, so that when the gold is built against these edges it may present a joint with the tooth as perfect as it would be possible to unite two perfectly plain and smooth pieces of wood, and more so, impervious to the fluids of the mouth, and this idea should be carried out, beginning with the cervical portion and extending to every part of the cavity, the connection being perfect inside and out. No projection of gold should be allowed beyond the enamel, but it should be flush and plump with it.

On grinding teeth, it should not be so full as to prevent the sound ones from antagonizing properly, and if there is to be any difference in the amount of force of occlusion on the distributing surface, the teeth without fillings should receive the greatest, as it is always unpleasant to the patient to have the filling seem too long in biting upon it, to say nothing of the injury produced to both teeth and filling. By the above mode of practice, briefly stated, my success has not been barren of good results. Perhaps others may suggest better methods, or improvements upon the foregoing.

CAPPING EXPOSED PULPS.

BY A. O. RAWLS.

[Read before the Indiana State Dental Association.]

The delicacy of this operation must be apparent if we but note the fact that the Dental pulp is one among the most highly organized structures of our body, and responds to morbid influence through the medium of the most sensitive nerve of the entire nervous system. Besides the difficulties arising out of those conditions, it is enclosed within a wall of solid, unyielding bone, the resistance of which would prove quite an impediment to success, should the operation be performed in a rude, bungling manner, or at a time when inflammation was too great to admit of the probability of its being overcome in the natural way of vital resistance and recuperation. Viewing the subject in the light of other days, when the practice of capping an exposed nerve was in its incipency, can we be surprised at the limited success met with and the meager support it received at the hands of our profession then, when to-day, with a theoretical and practical experience of twenty or thirty years in advance, and many valuable improvements to render us assistance, we fail in not a few of such cases intrusted to our care. Indeed, quite a number of the profession have abandoned the operation to considerable extent, resorting to it only when the pulp presents unmistakable signs of freedom from morbid conditions, while upon the other hand a few have turned their attention to therapeutical treatment when necessary, and, judging from the amount of success obtained in a comparatively short time, we would at least consider the practice commendable and well worthy a thorough trial.

When the practice of capping, for the purpose of protecting an exposed pulp first began to attract attention, its enemies were numerous and for several years the reign of arsenic or its kindred preparations continued unabated, but

now we may rejoice in the thought that this fell destroyer has seen its palmyest days, and the possibility of saving an exposed pulp, when there exists but little inflammation, is no longer a question at issue, the only question being one as regards the relative value of the materials in use and the most satisfactory mode of manipulating the same to secure the best possible results.

If I mistake not, capping an exposed nerve or pulp dates prior to the operation of destroying it, and the first material used was the charred surface of the pulp itself, the actual cautery being used to produce the char, and this broken down tissue left remaining as a shield or barrier between the living pulp beneath and external filling, as might be inferred from the rudeness of the means resorted to and the nature of the parts involved, its use was not long continued; but the ill-success of this first attempt to fill over an exposed pulp, in all probability gave rise to the employment of means for its entire destruction. Shortly after this, metallic capping merged into use, sheet gold taking precedent, though on account of its conducting properties, soon yielded its laurels to lead and other materials of less heat-conducting powers, all of which have gradually fallen into disrepute; lead from its ease of adaptation to the wall of the cavity, and from the supposition entertained at one time that the oxyd deposited beneath the capping proved beneficial in allaying inflammatory action, has enjoyed quite an extensive reputation. In the mean time, chemical science has not failed to appreciate the difficulties of our position, or been derelict of her duty, but has advanced nobly to our assistance, and presents a material for our consideration which bids fair to eclipse all of its predecessors, and already opens a new era in the capping of exposed pulps. Its composition is chloride of zinc, in solution and calcined oxyd of zinc; and, I believe, the credit of first using this article as a filling for decayed teeth is due to Drs. Keep, of Boston, and Metcalf, of New Haven. Since then, not unlike other articles of merit, it

has come very gradually into general use, improving in quality as its deficiencies were ascertained and the demand more extensive, until to-day it occupies a position enviable indeed, standing upon its own merits an auxiliary in operative Dentistry worthy of our esteem and recommendation. As a protective shield for an exposed pulp it has not been in general use many years, though for complete fillings and other purposes in which it has rendered valuable services, it has withstood a fair test for a considerable time.

All materials employed, or that have been in general use, and every theory linked with practical application in the Dental catalogue, has been burdened more or less with imperfections and objections, and, as a matter of course, oxy-chloride of zinc has its complete share, and if we were to judge and be governed by the opinions of a few, it certainly has an overdose.

Prominent among the objections urged against the use of this article as a shield over an exposed pulp is, first, that it is entirely too porous, consequently, when in close proximity to the pulp, would have a tendency toward absorbing all poisonous or effete matter existing at the point of contact, thereby rendering it unfit to be placed in such near relation with living tissues, laden as it would be with such impurities; second, that the escharotic properties possessed by the chloride is dangerous to the life of the pulp, and many cases are cited in which its use (rather abuse) has destroyed the life of this valuable structure. There are other objections, but those which I have noted seem to be the principle ones against its employment in this direction. As to the first mentioned, it is only necessary to state that our endeavor should be in the preparation of such cases to rid, if possible, the pulp and entire decayed cavity of the least indication of disorganized tissue or any like impurities. There should none form after the operation, the difficulty is overcome. To the second objection we would reply that a judicious use of the os-artificial, when well prepared, would obviate all such re-

sults, as the chloride is not taken into the circulation, and it is hardly probable that its use would destroy the pulp, unless employed in such quantities as to produce a great amount of inflammation.

The manner of introducing this material, and its consistency at the time it is introduced, tends as much probably to govern the results of the operation as any thing else concerned, and is, no doubt, too often overlooked or entirely disregarded, and failures from such neglect are credited to the material.

Should it be mixed too thick or allowed to dry out too much before introducing, the force required to adapt it closely to the walls of the cavity would give rise to congestion and consequent inflammation, or if placed in gently while thick as before, then there would exist a lack of cohesion in the particles of the filling; also, imperfect adaptation to the exposed surface of the pulp, the result of which would be crumbling of the cap upon introduction of the filling over it, or a place left between the shield and pulp, which condition would surely induce strangulation and death of the part involved, while a reverse of this mixing and introducing it of too thin a consistency would prove equally disastrous. We are all aware that a solution of chloride of zinc enters into the composition of os-artificial, and that it is endowed with powerful escharotic properties, and in case we should incorporate this substance too freely with the calcined oxyd, its effects would not only be very powerful, but would tend toward the production of no small amount of irritation, and probably to such an extent that the vital forces would not suffice to re-establish healthy action. We will grant, however, the possibility of there being sufficient reaction of the recuperative powers to counteract the irritation existing, in which event we have left for our consideration a thoroughly charred surface of the pulp at the point of exposure. The question now arises as to the probability of the char remaining *in situ*. If such were the case we would apprehend no

danger whatever, though I am inclined to the opposite opinion that such is not the condition of affairs, but that the char is removed by absorption, not taken up by the capping material, though through the medium of the absorbent vessels of the pulp stimulated to increased action as a consequence of great irritation, thus ridding itself of the cause and leaving an intervening space between the filling and pulp, corresponding in size to the extent of broken down tissue, thereby rendering the possibility of success doubtful, as the space could not certainly exist without more or less trouble. However, this neglect should not argue against the usefulness of the material in such operations, but only guard us against its abuse. As regards my manner of introducing the oxy-chloride of zinc over an exposed pulp, I have nothing new to offer in that direction, and in conclusion would say that this material, when properly prepared and manipulated with the care that the delicacy of the operation requires is, in the vast majority of cases, far superior to any other article extant as a protection for exposed pulps or sensitive dentine, and especially is it invaluable as an additional shield between the filling and nerve, when there exists but a thin lamina of dentine over the latter.



WHAT ARE THE INDICATIONS FOR EXTRACTION?

BY C. W. STANLEY, D. D. S.

[Read before the Indiana Dental Association.]

I do not propose to occupy the attention of this Association for any considerable length of time, but shall try and furnish a few thoughts which may serve to open the discussion on this subject.

So long as there remains so wide a difference in the qualifications of the practitioners of Dentistry, and in their ability to successfully treat the diseases of the teeth, there will be a wide difference in their appreciation of their value, and

the indications to them for or against extraction will be governed both by their ability and their appreciation. The Dentist who is able to restore the teeth to health and usefulness for years, and often through life, after disease and decay has attacked them, will appreciate their value and be slow to advise their removal for ordinary causes. While he who feels his inability to meet the requirements in the case, and baffled by his imperfect attempts to save them, which generally result in their extraction and replacement by artificial substitutes, with increased pain and expense, will lose his appreciation of their value and see indications for extraction in the mildest forms of disease. Hence, we see these indications do not imply any particular pathological condition of the teeth or their surroundings, but are on a sliding scale and are presented to each one in exact accordance with the position which we occupy relatively in the profession.

With a certain class of persons (I will not insult you by calling them Dentists,) the simple privilege to extract a tooth is sufficient indication for its removal, especially if there is an opportunity to replace it with an artificial one. These have neither the fear of God or of the law before them, and professionally are so low that the light never reaches them, and the light they do get in regard to the indications requiring extraction accords with the position which they occupy *to* the profession. Mark, I do not say *in* the the profession.

Another thinks his wares so desirable that he considers slight decay of the teeth, inflammation of the gums, or some slight disease of the surrounding parts sufficient cause for their removal, and I have known such, after having removed the enamel from a sound tooth by filing, for the purpose of filling an adjacent one, to recommend extraction as a remedy for the external sensitiveness which resulted, and which they were unable to control. Doubtless these failures in restor-

ing the parts to a normal condition and to preserve the natural teeth for any considerable length of time depreciates their value very decidedly, when compared with artificial substitutes.

Another makes an effort to save the natural organs so long as the requirements are simply mechanical, but quits the field in disgust upon the appearance of pathological conditions, and recommends removing the teeth for extensive decay, with inflammation of the dentine, for inflamed or exposed nerve, for periostitis and for abscess, however slight. Others, and I am happy to believe their numbers are steadily increasing, do not think that these diseases, or any of them, are necessarily indications for extraction, who think the duty of the Dentist is not to mar and mutilate, but to retain as far as possible the form, features and expression of the human face, and this can only be done by using every effort to save these beautiful organs which a benificent God has adapted so completely to the human wants, and which, in their health and beauty are so much superior to any thing artificial, as to bear scarcely any comparison whatever. My sympathies are all with the conservatives in practice, and my aim, as a rule, to extract no teeth which, by my utmost endeavors, I can save comfortable and useful for any considerable length of time. This rule can not always be lived up to, since some of our patients have neither the time or means necessary to justify us in undertaking their cases, and yet those who have not tried it would be surprised at the sacrifice in this way, which even those in moderate circumstances will undergo when fully satisfied of their ability to save their teeth. And not only would I advise saving the teeth which have the crowns remaining; and those with a portion of it remaining, but many roots may, when it is not desirable to replace them with artificial substitutes, be filled with decided advantage. Particularly is this the case with the roots of the bicusps, both above and below, and those of the inferior molars.

Roots that are broken off below the gum, that have abscess attached to them, or that in other ways are cause of discomfort to the patient, I would extract. Abscess is often an indication for extraction, and yet when attached to a tooth otherwise susceptible of restoration to usefulness, I would ordinarily be governed not so much by the extent to which the surrounding parts were involved as by the amount of time the patient could devote to the treatment.

Patient perseverance, even in difficult cases will, if properly directed, nearly always bring its reward. Teeth rendered useless and painful by absorption of the alveolus, either from old age, from accretions of tartar, or from having lost their antagonists, I would consider fit subjects for the forceps. Hypertrophy of the *cementum*, (exostosis) when producing pain, I would consider cause for extraction. Again, in preparing mouths for artificial work, the question of the relative value comes up and teeth may be condemned, which, under other circumstances, it would be proper to retain, for, in those of inferior quality, which have lost their antagonists and are showing decided disposition to become loose in their sockets.

Extracting sound teeth from a healthy mouth for the purpose of replacing with others, is rarely, in my estimation, justifiable, even where there are but one or two in a place. It is sometimes necessary to remove good teeth for the purpose of correcting irregularity, and sometimes there is so much projection of the anterior ones as to render them not only a deformity, but useless for the purpose for which they were intended, in which case it would be in perfect accordance with correct practice to remove and replace with others.

There may be, and doubtless are, other conditions which would occasionally justify extraction, but I have spoken of the ones which most often occur in my own practice, and will not detain you farther.

Proceedings of Societies.

REPORT OF DISCUSSIONS OF THE MISSISSIPPI VALLEY DENTAL ASSOCIATION, HELD MARCH 3, 1869.

The first subject presented for discussion, "The use of the file in operative Dentistry."

Dr. CHEESBROUGH: I regard the file as a very valuable instrument in operations upon the natural teeth. There are many cases in which the teeth must be separated, and the file is a valuable instrument for this. There is a very common prejudice against its use. Statistics bearing upon the effects of the use of this instrument should be kept, in order to determine the ground for such prejudice.

When the teeth are decayed I do not hesitate to file them; even when the enamel only is defective I use the file. To specify the particular conditions in which its use is indicated, would hardly be practicable now.

Dr. JAS. TAYLOR: I thought this question had been settled. I am aware, however, that there is still a difference of opinion, and there may be prejudice against it. For separating the teeth I advocate the free use of both the file and the wedge. We should look over the whole subject—examine it carefully. Upon some teeth we may use the file with impunity—in others it will invariably result in injury.

In some cases would file as freely as ever, in others with far more caution than twenty years ago. Front teeth slightly decayed I do not file. In lower molars would use the file freely, in some cases cutting away a large portion of the teeth. If the secretions are natural or in healthy condition, decay will not usually recur; if, however, the saliva is of an acid reaction, would use the file with far more cau-

tion. When there is defective enamel and the general recuperative power good, use the file till all the effected part is cut away and the surface smooth. I have, in some instances, in this manner cut away one-third to one-half of the crown of the tooth, with the best results. I do not believe in the practice of making contour fillings in the molars and bicuspid. I think that has given Dr. Arthur some grounds for his positions. I have lost two of my own teeth by attempts to make contour fillings. Decay often occurs on the proximal surface of the teeth, at the curvical portion. When the bicuspid, for instance, incline toward each other, I would not file; if, however, they do not so incline, I would file freely.

Dr. MORGAN: I have been in the habit of using the file extensively. I use the file freely in all cases where there is disintegration of the enamel only, then polish well. I am in the habit of separating the teeth with the file. Teeth, the necks of which are in contact, I always separate with the file; in all cases separate the molars by this means. I file the deciduous teeth freely. In this there is less difficulty than with the permanent teeth.

I condemn the practice proposed by Dr. Arthur, in which he anticipates decay. A sound tooth should not be touched with the file. "The whole need not a physician." If the sound natural covering of healthy dentine is removed, decay will usually occur. The use of the file induces increased sensitiveness. This exalted sensitiveness is a pathological and not a physiological condition, and one in which active disease is very liable to set in.

Dr. TAYLOR: My attention has been much directed to this subject of exalted sensitiveness, and my opinion is that, though there be a high degree of exalted sensitiveness, when the decay with which it is connected is cut away by the file and the tooth smoothly polished, the decay is arrested and the surface solidified. I think the exalted sensitiveness indicates a condition that is favorable to this result.

Dr. WATT: Dr. McCullum, some years ago, settled the

file question in a short paper. I think Dr. Arthur is certainly mistaken in his views upon the use of the file, especially as it regards the deciduous teeth, and more particularly sound teeth. The exalted sensitiveness referred to is a pathological condition, but that condition is many a time necessary in the process of reproduction of tissue, especially when there is great injury. In young patients the reproduction of tissue is much more under control and direction than in older persons. The file is a good instrument for trimming and dressing, but not for arresting decay. There is not always diminished action where there is disease, but many a time the action is above that of a healthy condition.

Dr. MORGAN: Dr. Watt's theory is probably correct, still I do not understand how this pathological state in sensitive dentine can aid in the arrest of decay, or in the restoration of the diseased part to health.

Dr. SHADOAN: Solidification of dentine does arrest decay; during this process doubtless there is an increase of vitality. All teeth are not alike susceptible to injury by the use of the file. This is a point we should study well. I do not approve of making large separations between the teeth with the file for filling.

Dr. TAYLOR: I do not file off ebernated surfaces, but regard that as an indication that the other teeth may be filed freely.

Second Subject—Treatment and preservation of the deciduous teeth.

Dr. BERRY: I regard it as much the duty of the Dentist to instruct parents and those having the care of children, in reference to the proper means of taking care of their teeth, as to operate for them. Many are inclined to say just as little as possible upon this subject, lest they should be thought obtrusive.

Dr. H. A. SMITH: The subject of the influence of the various kinds of food, for securing teeth of good structure, is an important one and should be well understood. How

the file can be used to any extent upon the deciduous teeth I am at a loss to understand. It is contrary to my judgment and feelings. Dr. Morgan's experience is far more extensive than mine, and I must conclude is correct. Filling the teeth of children is a very important operation, and one that calls for much skill for its proper performance.

Dr. MORGAN: There is a very great want of appreciation and care of the temporary teeth by the Dental profession, nor have physicians given the subject the attention its importance demands. I have had an extended experience in the treatment of children's teeth, and I do not hesitate to operate freely upon them, both by filing and filling; am not so particular as to the material with which I fill as in the permanent teeth; fill with any thing that will last as long as the teeth are to remain. When an abscess occurs from a deciduous tooth, usually the latter should be removed; otherwise necrosis of the alveolus and destruction of the permanent tooth may be effected, and oftentimes is. Premature removal of the temporary teeth should be avoided, as it will render the proper eruption of the permanent teeth less certain and more difficult.

Dr. SHADOAN: Children often by accident have the temporary teeth loosened, yet have some attachment, but have inflammation and soreness about them and perhaps some discharge of pus.

Dr. MORGAN: It is very difficult to answer Dr. Shadoan's question. There are so many conditions, which he does not state, that must be taken into account. For instance, predisposition temperament and other conditions, that I can not now determine the best course of treatment. Could I see the case I would decide.

Dr. SHADOAN: I do not think the temporary teeth should be in all cases removed when they are luxated, though some Dentists invariably do it. When alveolar abscess occurs, I think the removal of the tooth is indicated.

Dr. MORGAN: A diseased deciduous tooth will often produce the same symptoms as difficult dentition. This will sometimes take place at two or three years of age.

Dr. J. H. PAINE: A child twenty two months of age, by a fall, had the two superior central incisors entirely displaced. After some forty minutes they were replaced and, being disposed to slip out of the sockets, they were ligated firmly in position, and in about six weeks were firmly fixed in the sockets and have continued to the present in a healthy condition.

Dr. McCULLUM: I regard light as a very important element in the development and preservation of all living tissues.

Dr. MORGAN: I do not regard the dark or greenish deposit so frequently found upon children's teeth like or analogous to salivary calculus, but it is a deposit of coloring matter upon a surface of decomposing enamel. In such cases I enjoin scrupulous cleanliness and frequent and thorough friction of the gums; have used the hypophosphates with marked advantage.

Dr. McCLELLAND: In such cases as Dr. Morgan has referred to I dress off and polish the rough surface very thoroughly, and then require strict cleanliness and the affection does not usually return.

Third Subject—Mechanical Dentistry.

[Introductory to the discussion of this subject, Prof. John Allen, of New York, read a paper upon "Continuous Gum Work," in the construction of artificial dentines for which see March number of the REGISTER. After the reading of the paper he gave a very full description and illustration of the present attainments in the construction of this work, by which it was clearly seen that progress is constantly being made.—REP.]

Dr. McCLELLAND gave a full description and demonstration, with implements and models, of the method of con-

structing artificial dentures upon Rose Pearl base, clearing up to the minds of the members many things that had been in doubt and uncertainty.

Dr. CAMERON: I have been using Rose Pearl base about four months; have made and put in the mouth about ten pieces, and in every case they are thus far successful and eminently satisfactory to both patient and myself. It is in every case much preferred to rubber. After understanding the method of working, it is about as easy to construct an artificial denture as by any other method, or with any other material.

Dr. H. A. SMITH: I am much pleased with Rose Pearl so far. I much prefer to work it than rubber. Should like to see it more extensively used by the profession.

Dr. McCLELLAND: A misfit is more easily corrected in the Rose Pearl than in any other kind of work. The surface of a plate may be softened and new material added to any required extent, and the attachment is most perfect.

[To be Continued.]



THE ELEVENTH ANNUAL MEETING OF THE INDIANA STATE DENTAL ASSOCIATION.

TUESDAY, June 29, 1869.

Met at the rooms of the Young Men's Christian Association at 2 o'clock P. M.

President S. M. Good being absent, First Vice President W. C. Stanley called the meeting to order.

Members present—W. C. Stanley, C. C. Burgess, E. M. Morrison, A. T. Keightley, W. F. Morrill, Thomas H. Martin, H. H. Morrison, J. B. Harlan, P. G. C. Hunt, W. H. Pifer, A. O. Rawls, Merit Wells, P. F. Hancock, J. M. Shaw, L. W. Munhall, J. F. Johnston, G. A. Wells.

Minutes of last meeting read and approved.

Board of Censors—Drs. Morrill, Johnston and Keightley.

The names of Drs. L. H. Bartholomew, of Terre Haute, and S. B. Brown, of Fort Wayne, were presented for membership and both elected.

On motion it was agreed to go into election of officers, which resulted as follows :

President—Dr. John F. Johnston, Indianapolis.

First Vice President—Dr. A. M. Moore, Lafayette.

Second Vice President—Dr. W. H. Pifer, Lafayette.

Secretary—Dr. Seneca B. Brown, Fort Wayne.

Treasurer—Dr. C. C. Burgess, Indianapolis.

Drs. Wm. E. Dunn and Will Taft, of Ohio, being present, were elected honorary members.

Dr. A. M. Moore read an essay on the "Physiological Effects of Nitrous Oxide Gas."

The thanks of the Association were tendered for his able paper, and a copy was asked for publication.

Dr. John F. Johnston followed with an essay on "Sustaining the Code of Ethics," which met the hearty approval of the Association by a vote of thanks and a copy requested for publication.

On motion a committee, consisting of Drs. Moore, Morrill and Keightley, were appointed to ascertain if there had been any violation of the Code of Ethics by any member of the Association.

On motion the Committee on Procuring Passage of Dental Bill in Legislature were continued, after Dr. Hunts report on same, the committee consisting of Drs. Hunt, Moore, Johnston, Keightley and Richardson.

The following subjects having been selected for discussion, were now taken up :

1. The best method of controlling the oral secretions in Dental operations.
2. The best protection for exposed nerves.
3. What are the indications for extracting the teeth?
4. Dental Therapeutics.
5. Mechanical Dentistry.
6. Miscellaneous.

The first subject, "The best method of controlling the oral secretions in Dental operations" was now taken up. Dr. Will Taft regards the rubber dam as superior to all other methods, and interested the Association by showing the manner of application.

Drs. Morrill and Moore followed in the discussion.

Moved to adjourn till a quarter before 8 o'clock.

EVENING SESSION.

The discussion on the first subject being continued, Drs. Stanley, Rawls, Dunn and Hancock participated, when the subject was disposed of and the second subject taken up—"The best protection for exposed nerves."

Dr. A. O. Rawls read a very able paper on the subject, which received a vote of thanks and a copy requested for publication.

Drs. Morrill, Moore and Dunn followed.

On motion adjourned to meet to-morrow at 8 o'clock, at the Dental Depot of Messrs. Strong & Smith, for clinical operations.

SECOND DAY—MORNING SESSION.

Association met, pursuant to adjournment, at the rooms of Strong & Smith, for clinics.

Dr. Will Taft demonstrated to the members present, his method of applying rubber dam to the necks of teeth, by means of waxed floss silk; then removing the silk the dam remains in place without the aid of ligatures, wedges, &c. An hour having been spent here with much interest and profit, the members proceeded to their regular place of meeting.

Association called to order by President Johnston. Minutes of preceding meeting read and adopted.

On motion, Dr. N. W. Williams, of Xenia, Ohio, being present, was elected to honorary membership.

The committee appointed to ascertain if there had been

any violation of the Code of Ethics by members of this Association, presented the following report:

"Your committee, to whom were referred the inquiries into infractions of the Dental Code, would most respectfully report that several cases have been before your committee. The names of them are Drs. Chappell, of Knightstown, Purcell, of Indianapolis, Munhall, of Indianapolis, Morrison, of Greencastle, who have either designedly or inadvertently violated that clause in the Code in respect to advertising to do work at cheap rates, and other particulars which we do not deem necessary to mention. Your committee would respectfully recommend that these gentlemen be cited to appear before them and show cause why they should not be expelled from the Society for these violations."

Drs. Morrison and Munhall having made explanations and promised a strict adherence to the Code in future, they were continued as worthy members of the Association.

Drs. Chappell and Purcell did not appear, and as there was abundant evidence to support the charges brought against them, they were, by vote of the Association, expelled.

The Committee on Inquiry into Infractions of Dental Ethics were continued.

On motion O. F. Britton, of Champaign, Illinois, was made an honorary member.

Dr. W. E. Driscoll, of Bedford, Indiana, was, on ballot, elected a member of this Association.

The regular order of business being suspended, Dr. Dunn, of Dayton, Ohio, exhibited cases of his porcelain work.

Dr. W. F. Morrill read a paper, the subject of which was "How to conduct an office practice." This was a production of much merit and well calculated to elevate professional bearing. We understand it will be published in pamphlet form.

The hearty thanks of the Association were expressed by vote, and a copy solicited for publication.

On motion adjourned to 2 o'clock P. M.

AFTERNOON SESSION.

Association called to order by President Johnston at the hour appointed.

The retiring President, Dr. Good, being absent, a letter from him was read by the President, which elicited a vote of thanks and ordered on file.

By consent the second subject for discussion was concluded and the third subject, "What are the indications for extracting the teeth," taken up.

Dr. W. C. Stanley read a paper on the above subject, which was ordered to be put on file.

Discussions followed by Drs. Rawls, Wells and Williams.

The fourth subject, on "Dental Therapeutics," was next in order, and interesting accounts of practice given by Drs. Williams, Morrill, Hunt and Rawls, when the subject was passed and "Mechanical Dentistry," the next and fifth subject, taken up. Dr. Dunn represented the porcelain style of work and claimed its superiority over other styles, excepting continuous gum.

Dr. W. Taft was called upon to give some account of rose pearl, which he did, saying he did not wish to be understood as an especial advocate of that style, but had no doubt of its advantage over rubber.

Dr. Keightley presented views favorable to the aluminum base.

On motion the Association proceeded to the next and last subject for discussion—"Miscellaneous."

Dr. Moore presented resolutions, viz.:

Resolved, That the election of officers hereafter shall be held after the consideration of the regular subjects have been disposed of.

Also, that the President shall appoint a member to open discussions on each subject.

Carried.

Dr. Williams, of Xenia, Ohio, spoke of the kindness ex-

tended to the visitors from his own State, and extended to the members of this Association a most cordial invitation to attend the Association of their State at Columbus.

On motion adjourned to meet at 8 o'clock P. M.

EVENING SESSION.

President Johnston in the chair.

An Auditing Committee, consisting of Drs. Lea W. Munhall and Seneca B. Brown, of Fort Wayne, was appointed, and after examining the Treasurer's accounts, submitted the following report:

Amount of cash on hand for last year's report.....	\$95 28
Received from initiation fees and dues.....	125 00
Total.....	\$220 28
Amount paid for incidental expenses.....	117 89
Leaving balance in the Treasury.....	\$102 39

The report was received and committee discharged.

The Executive Committee for the succeeding year was announced as follows, by the chair: Dr. W. C. Stanley, of Dublin; Dr. A. O. Rawls, of Connersville; Dr. W. L. Heiskell, of Indianapolis.

Dr. Davis, of Cincinnati, exhibited the Hall's Gas Burner, which was very highly spoken of by nearly all who had used it.

A paper on "Microscopy of the Dentinal Tubuli," by S. P. Cutler, M. D., A. E. G., D. D. S., of Holly Springs, Mississippi, was read, and a motion that it be published and that the Secretary be directed to communicate to the author a vote of thanks; prevailed.

No delegates were appointed to the American Dental Association. The President and Secretary were authorized to issue certificates to any member who may desire to attend, on application.

At 10 o'clock P. M. the Association adjourned, to meet in the city of Indianapolis, on the last Tuesday of June, 1870.

S. B. BROWN, *Secretary*.

Selections.

CARBOLIC ACID AND ITS THERAPEUTICAL USES—A paper read before the Cincinnati Academy of Medicine June 7, 1869, by WM. B. DAVIS, M. D.—Carbolic acid was discovered by Runge as far back as 1834, yet the attention of the medical profession was not directed to it as a remedial agent until quite recently. Now its use, both in medical and surgical practice, is varied and extensive.

Carbolic acid, strictly speaking, is not an acid, but an alcohol. It is distilled from coal tar, and when perfectly pure is a colorless crystalline mass, disposed to deliquescence. Of the crystal preparations found in commerce, Calverts of Manchester, is pure, and Mercks of Darmstadt, is 93 per cent. pure acid.

In many respects carbolic acid resembles creosote, and by some the two are considered identical, but Hlasiwetz in 1858, and Hugo Muller, in 1864, showed that creosote was a different body from carbolic cresylic acids. It dissolves in all proportions in Glycerine, alcohol, ether, acetic acid and the fixed oils. With twenty parts of water it forms a permanent emulsion.

Mr. Crooke's careful and extended experiments with it led him to the following conclusions, viz :

Carbolic Acid has but slight coagulating power on albumen. [Most writers differ with him on this point, claiming that it will coagulate the albuminous portions of the tissues whenever it comes in contact with them.]

It has no power of retarding oxidation.

It has scarcely any action on foetid gases ; but it attacks the cause which produces them, and at the same time, puts the organic matter in such a state that it never re-acquires its tendency to purify.

It has a special action on the fermentation induced by organized matter ; it not only arrests it instantly, when in progress, but it prevents the development of future fermentation.

It has no action on purely chemical ferments. It acts by attacking vitality in some mysterious way. The various in-

fusoria of water, as well as small fish are instantly killed by a few drops of it. Fleas, moths, bugs and insect life generally, as well as animals as large as mice are destroyed by it.

The powerful action which carbolic acid exerts on the phenomena of life is the most remarkable property which it possesses. It may be looked upon as the test proper for distinguishing vital from purely physical phenomena, and in most cases its action is characterized by the certainty and definiteness of a chemical re-agent. In the presence of it, the development of embryotic life is impossible, and before its powerful influence all minute forms of animal life must inevitably perish. (*Third Report of Commission on Cattle Plague*, p. 192, 193.)

As an antiseptic and disinfectant carbolic acid has no equal, 1-1000, even 1-5000 will prevent decomposition, fermentation or putrefaction of Blood, Urine, &c.

The sewers of London were kept perfectly sweet during the existence of cholera in 1866 by 1-10000 part.

In large doses it is a dangerous poison. The recent journals, both of America and Europe, report several deaths occasioned by it.

Prof. J. G. Pinkham pronounced it a poison not inferior to oxalic acid, and hardly so to strychnine. It is rapidly absorbed by the system and rapidly eliminated from it, chiefly by the kidneys.

The local action of the poison is that of a caustic, irritant and sedative. The general action is that of a powerful neurotic, causing trembling, convulsions, giddiness, headache, insensibility, a cold clammy surface, a feeble intermittent rapid pulse, great prostration and death.

In treatment, the chief reliance must be placed upon measures of evacuation and stimulation. (*Medical and Surgical Reporter*, December, 1868.

If M. Pasteur's theory be correct, that all fermentation and putrefaction depends upon the living germs which the air contains, we have in carbolic acid an agent whose special action is directed against vitality, and whose fumes will destroy all organic and organized bodies, which the air may bring with them.

Dr. Argus Smith says it may be considered absolutely certain, that all organic substance, whether of the nature of plague or any other disease, will be arrested in their course of activity by it.

Mr. Crookes has proven that it will destroy the contagion of cattle plague and the virus of vaccine, and that cattle are perfectly protected by it from the contagion of plague. His detailed experiments "point forcibly to the possible prevention and cure of all zymotic diseases which attack the human race. Every argument brought forward, every experiment detailed and every result obtained of this investigation apply with overwhelming force to such visitations as typhus and typhoid fever, small pox, diphtheria and cholera." (*Page 201, Cattle Plague Report.*)

These conclusions agree with those of Dr. Jules Lemaire, whose work on phenic acid was published in Paris in 1865. M. Lemaire shows that carbolic acid is the most powerful acknowledged means of contending with contagions and pestilential diseases, such as cholera, typhus fever, small pox, &c.

Dr. A. E. Sansom read a paper before "Medical Society of London," April 5, 1869, in which he gave a sketch of a history of the theory of fermentation in its relation with zymotic disease. He claimed that the analogy between fevers and fermentation has been taught since the earliest days of physic, and showed that the investigation of the real nature of fermentation has thrown much light on the subject by proving that living molecules were the prime causes of the process. The author considered that the potential energy of the morbid molecule as well as of the ferment could be stored up in no inorganic material—this must possess power of vitality. He divided the germs of disease into two classes, according as they multiply (a) in the blood, (b) in the intestinal canal. He showed by experiment that fermentation can take place in the gastro-intestinal tract of mice. He then discussed the means of destroying these germs and considered that the most powerful agent with which we are acquainted is carbolic acid. His experience, fortified by that of others, was that they relieved dyspepsia, checked pus formation, and seemed to diminish the intensity of the symptoms of zymotic disease. (*Medical Times and Gazette, April 24, 1869.*)

It is shown that carbolic acid is destructive to all embryotic as well as all minute forms of animal life, and it is proven that in certain doses it is equally destructive to human life. Will the dose which may be required to destroy the virus of disease endanger the life of the patient? Dr. Angus Smith

believes there is an amount which will destroy the germs of disease and not destroy life. On page 163 of his Report (Cattle Plague Com.) he states: "I have heard of no one being injured by breathing air, scented by carbolic acid all day for a long time together, and I have myself breathed it night and day in a mild state—very strong it must never be breathed. Flesh will absorb carbolic acid and become so saturated that when roasted it will cease to smell like flesh. I am informed that men working in equally strong vapor are not injured."

Mr. Crookes says that medical and scientific writers were unanimous in the opinion that small internal doses of carbolic acid were attended with no injurious effect, and he gave it to cattle in such doses that their breath smelled of it for some hours without any injurious effects.

The internal administration of carbolic acid as a remedial agent in the treatment of disease, is just attracting the attention of the profession, and, consequently, there is not sufficient evidence to authoritatively state the exact quantity that will constitute a proper dose. Prof. Lionel Beale thinks that a solution of one part carbolic acid to 200 parts water is as strong as should be used. Dr. H. W. Fuller, of St. George's Hospital, says that "as far as the mere dose was concerned, I found that some adults—especially men who have been spirit drinkers—could take ten or twelve minims without inconvenience, and notwithstanding the occurrence of a certain degree of discomfort, could take doses of fifteen minims three or four times a day for many days consecutively; but that most persons, especially women, began to complain when the dose had been increased to eight or ten minims and found six or seven minims a full dose."

In the State Lunatic Asylum at Utica, N. Y., the standard solution is one grain to the ounce of water, and the dose of this solution is a drachm. I have administered carbolic acid internally since September 1866, and I have been in the habit of ordering four grains to the ounce of water, and of this solution I gave two drachms every three or four hours to adults and one drachm to children; and I have never known any injurious effects result from its use in this strength.

Carbolic acid is now extensively used in surgery. Prof. Joseph Lister, of Glasgow, has achieved a world-wide reputation by his surgical uses of this agent. Adopting the germ theory, he confidently applied carbolic acid in compound and

comminuted fractures, wounds of joints, acute and chronic abscesses, tumors and wounds generally, and with the remarkable result of immediately converting compound fractures into simple fractures with superficial sores, the arrest of deep-seated suppurations and the prevention of constitutional disturbance, &c. [The details of his treatment can be found in the *London Lancet*, March, 1867.]

Prof. James Syme and other distinguished surgeons have adopted Mr. Lister's mode of treatment and with the most favorable results. Mr. McCormac in the *Dublin Quarterly*, February, 1869, details eight cases, and Joseph Bell, in the *Edinburgh Medical Journal*, May, 1869, nine cases treated according to Mr. Lister's antiseptic method and with the most astonishing results. Aladdin with his lamp performed nothing more wonderful nor half so satisfactory, as carbolic acid did in most of these cases.

Combined with linseed oil in proportion of 1 to 10, carbolic acid in burns arrests pain, prevents suppuration, dries up the bullæ and effects a speedy cure.

It is used in the treatment of syphilitic sores (primary and secondary.) "Among a large number of patients with primary sores, those who had used carbolic acid lotion have been freer from buboes. The sores have healed, and induration disappeared more rapidly than with those who had not the lotion.

There is strong reason to believe that the occurrence of secondary symptoms is less frequent, *cæteris paribus*, among those using the lotion. (*London Lancet*, page 217, 1869.)

It is especially useful in those forms of skin disease depending on parasites or accompanied by the development of any of the forms of fungi.

All parasites which have their habitat, in or on man, find in carbolic acid an uncompromising foe, and it is equally destructive to the vermin which infest some houses, such as roaches, bedbugs, &c.

In the treatment of gonorrhœa ozaena, otorrhœa ulcerated sore throat, &c., it has been found efficacious. Internally it is administered in the treatment of phthisis pulmonalis, pneumonia, bronchitis, particularly when the sputa is profuse, offensive or purulent, typhus and typhoid fever, measles, scarlet fever, as well as in dyspepsia, diarrhœa and vomiting.

As a prophylaxis of scarlet fever it has been used by Mr. Amos Beardsley. When a patient suffers from scarlatina,

he is washed all over, once or twice a day, with diluted carbolic acid, one drachm to a pint. Mr. Beardsley says that in no case in which he has tried it with the first case in a house has there been any further spread of Scarlatina in the family. He has now so much experience as to be convinced that this plan is most useful in preventing the emanation of contagious influence from patients. (*Practitioner, February, 1869.*)

My first experience with the internal administration of carbolic acid was in 1866 in the treatment of diphtheria. The following case, treated in that year, I select from a number, because of its typical character and severity.

Luther J——, aged 4 years, was observed to droop for two or three days prior to the night of October 20, 1866, when he was suddenly seized with convulsions. I was immediately sent for, but he recovered his consciousness before my arrival. I found him with a hot skin, flushed face, bounding pulse, breathing labored, tongue furred, submaxillary glands enlarged, tonsils swollen, urine albuminuric. Ulceration of the tonsils set in on the second day and by the 24th inst. a black, slough-like covering formed on the tonsils, which rendered the breath very foetid. His strength rapidly failed and my hopes for his recovery were but slight until the morning of the 29th inst., when some improvement was manifested. From this date he slowly convalesced until his full recovery in the latter part of December. When convalescence had been well established, so that he was no longer confined to his bed, his mother surprised me one morning as I entered, by exclaiming: "Doctor, my child is cross-eyed!" An examination confirmed this statement. With strabismus there was defective vision, owing to loss of adjusting power. There was also paralysis of the faucial muscles, which impaired the voice. The muscles of the back and neck were likewise affected, so that he could not stand erect or properly support his head.

My treatment during the first stage was $\frac{1}{2}$ of a grain of carbolic acid in conjunction with chlorate of potash, every 3 hours, and a wash for the tonsils of carbolic acid, 5 grains to the ounce of water. During convalescence, muriated tinct. of iron, quinine, brandy and beef tea were given. I have never known a case as severe as this one to recover on any other treatment. I have continued the use of the acid in the treatment of diphtheria and with very satisfactory results.

I have treated 20 cases of measles with it—of this number 17 recovered and 3 died. The latter were cutting teeth at the time, and convulsions supervened, of which they died.

I have administered it to 17 cases of scarlet fever and lost 5 of them; these five were malignant ones; 3 died in one room and 2 in another. I think they would not have recovered under any treatment, yet I do not think I gave carbolic acid as fair a test in these cases as it deserved. In the future I will put malignant cases in separate rooms, disinfect the premises and have the air they breathe slightly charged with carbolic acid.

I have administered it to fourteen cases of small pox and all recovered but one. Five were confluent and nine were well marked, distinct cases. Three of the five confluent ones had been vaccinated, and of this number was the one who died. Of the nine distinct cases, four had been vaccinated and five had not. The secondary fever in several was entirely wanting, and very mild in those who had any.

The most remarkable result observed was, that not one of the thirteen who recovered was disfigured by pitting. I recently visited two of the patients who had passed through the severest form of confluent small pox. One was a woman aged 58 years, who had been vaccinated in her youth; the other a girl of 7 years, who had never been vaccinated. In the first case three months had elapsed since her recovery; in the other, two months. Upon a close scrutiny I could discover some superficial pitting on the nose and forehead, but a few feet distant they were not observable. There was no disfiguration. My general prescription in the treatment of these cases was as follows:

R.—Crystalized Carbolic Acid, grs. xvi.

Chlorate of Potash, ℥ii.

Spir. Nit. Dulc. ℥i.

Syrup. Ipecac ℥i.

Syrup Tolu ℥i.

Glycerine ℥i. M.

S.— $\frac{1}{2}$ tablespoonful every three hours during the eruptive fever.

A lotion of carbolic acid, grs. x, to glycerine ℥j, was applied to the face and hands.

Dr. Cassat, of this city, has treated four cases of gonorrhœa with carbolic acid in the strength of twenty grains to

the ounce of water, used as an injection. And in each case the discharge was arrested within the first twenty-four hours and did not return.

I have used it in two cases. In the first one I directed four grains to the ounce of water, but it did not control the discharge, although the patient injected it three times per day for a week. In my second case I ordered a solution of twenty grains to the ounce, and the patient injected it twice and the discharge stopped and did not return. No other medication was used. In the latter strength it produced severe pain, which continued from one to three hours.

I treated a patient who was very much broken down with a carbuncle, full six inches in diameter. I made a crucial incision, washed it three times per day with a lotion of four grains of carbolic acid to the ounce, and dressed it with a salve containing four grains of the acid to the ounce and administered the acid internally in conjunction with tonics. The patient made a rapid recovery and was able to resume his work in three weeks.

Dr. John Davis first directed my attention to the internal use of carbolic acid, and he has kindly furnished me the subjoined record:

The first instance of my administering carbolic acid internally was on the 25th of September, 1866. I was then called for the first time to see Mrs. J.—, living near Cincinnati. She had been suffering with severe cough for several weeks, and was far gone in pregnancy. Upon entering her room I perceived a very offensive odor of putrescent animal matter. Upon nearing her this stench was more intense, and her sputa, from whence this odor proceeded, affected my olfactories almost unbearably. They were rust colored and copious, and her right lung presented dullness to percussion over the whole extent of the lower two-thirds of its surface. She was much emaciated and had but little appetite.

I ordered as follows:

R —Crystallized Carbolic Acid, gtt. xvi.
 Chlorate of Potassa, \mathfrak{z} i.
 Sulphate of Morphia, grs. ii. .
 Syrup of Tolu, \mathfrak{z} j.
 Peppermint Water, \mathfrak{z} iii. M.

S.—Half a tablespoonful every three hours while awake, and the right side of the chest to be painted over

once per day with a mixture composed of equal parts of Tinct. of Iodine and Alcohol. Half a tablespoonful of Huxam's Tinct. of Bark was also ordered to be given three times per day.

The next day the stench which, on the day before filled her room, was now hardly perceptible, and in twenty-four hours more it had entirely disappeared to return no more.

Oct. 6.—This patient is now nearly well. She has but little cough, the dullness to percussion over her right lung has nearly disappeared and her flesh and strength are much what would be expected of any one very near the time of her confinement. Her recovery has been so rapid that I have made to her in all only seven visits, including that of this date.

Oct. 17.—She was delivered of a healthy child on the 7th inst., and is now quite well.

What led me to think of administering carbolic acid internally for this patient, was the horrible putrescent stench emanating from her. I knew that it had been proved that meat saturated with carbolic acid would undergo no decomposition. I therefore inferred that its influence on a decomposing vital animal organization might prove also effective. My success in this case led me immediately to using the acid as an antiseptic in almost all the cases of septic or zymotic diseases which I have been called to treat from that time to the present.

In diphtheria and typhoid fever I have found its use attended with remarkable success; also, in scarlet fever and measles.

In some cachectic conditions I have also found it to have a very good effect, as in the third stage of phthisis pulmonalis, to retard the destruction of tissue.

The following is from C. P. Brent, M. D., physician to the Hamilton County Jail:

George H——, aged 7 years, 42 Elm street, was attacked with Pneumonia, December 6, 1866. I treated the case in my usual way, but there was no cessation of the morbid action; the case passed through the first and second stages and into the third, resulting in suppuration of the lower lobe of right lung. The patient was gradually sinking, although tonics and stimulants were freely administered. The odor proceeding from his sputa was unbearable, and the whole room was filled with the sickening smell. The family and

myself were daily expecting him to die, when, at the suggestion of Dr. John Davis, I gave him carbolic acid and in twenty-four hours there was a marked diminution in the odor, and in a few days it was scarcely perceptible. The patient began to improve rapidly and in a few weeks was a positive convalescent. He is now active and well.

I have used carbolic acid in another case of pneumonia, where there was suppurative action with the same good result. Also in a case of phthisis, where the breath and sputa almost drove the friends from the room, the offensive odor was entirely removed by its use.

I used carbolic acid very freely in the Hamilton County Jail in various affections, especially syphilis, all forms of ulcers, &c. I could not dispense with it any better than with the old standard remedies.



SPONGE TENTS.—Knowing the fact that absolute or *strong* alcohol will quickly *set* the fibres of common sponge, after having been moulded or compressed into any given size or shape, I was led to the following quick and easy method of preparing sponge tents, tampons, etc :

The sponge is first thoroughly moistened with water and pressed as dry as the strength of the hand will permit; then having formed it into the desired shape and size by the hand, or by pressing into a quill or any other tube or mould it is immersed into the alcohol. If the spirit is sufficiently strong (90 to 100 per cent.) the sponge is *immediately* set into the given shape, which it retains perfectly after the pressure or mould is removed. It is then hard, firm and inflexible and may be trimmed to a sharp point or any other desired shape.

To restore it to its former size and shape it is only necessary to moisten it with a few drops of water. The alcohol sets the sponge perfectly, whether the amount of compression be much or little, so that the degree of dilatation, attainable by the use of tents thus prepared, will of course, depend upon the size after moulding and the degree of pressure used. As this process of preparation works perfectly and without delay its advantages are obvious.

Correspondence.

NEW YORK, July 12, 1869.

EDS. DENTAL REGISTER—*Dear Sirs*: In the June number of your valuable journal there is an article headed "Suspension of the New York College of Dentistry," in which there appears the following assertion: "The difficulties that have for some time existed between the Faculty and Trustees of the institution have resulted in its dissolution." Where you obtained this information, unless from the article quoted from the *American Journal of Dental Science*, it is hard to conceive, and I take immediate occasion to give you the facts in the case, and hope, through your extreme kindness and your good feeling toward the New York College of Dentistry and those connected with it, you will publish the following:

It is true the College is suspended for the time being. It is not true that any difficulties have ever existed between the Faculty and Trustees. It is true that difficulties have existed between the Board of Trustees and the Faculty on the one hand, and the former Dean on the other. It is not true that the College is dissolved or the charter taken from the Trustees, as stated in the article quoted by you. Since the spring of 1868, the date of the last election of the late Dean, it seems to have been his intention to break up the institution, if by any possible means he could accomplish it. It has come to the knowledge of the Trustees that, on several occasions during the year, he has said that the session of 1868 and 1869 would be the last that the College would hold. This spring, when the Faculty were to be elected, the Alumni of the College drew up a set of resolutions (signed by two-thirds of all the Alumni) setting forth the extreme

unpopularity of the late Dean, and praying the Board of Trustees, if they desired the success of the College, to not re-elect him to a professorship. In addition to this the majority of the Faculty refused to serve with him another year. Under the existing circumstances the Board of Trustees did not deem it admissible to re-elect him, and appointed an Auditing Committee to investigate the accounts of the College to date. Having been guilty of gross dereliction of duty as Dean, he received a severe reprimand from several of the members of the Board of Trustees. At this time (April, 1869) Norman W. Kingsley presented a complaint and affidavit (he being the sole complainant) to the Attorney General of the State, paid the required fees and gave the necessary bonds to indemnify the State against any costs in the suit, and the suit was commenced in the name of the people of the State of New York. The charges made against the Board of Trustees for violation of charter have no foundation whatever, and the case was looked upon by every member of the Board as a trivial matter, and they treated it accordingly. A motion for a preliminary injunction on the proceedings of the College was made before Judge Cardoza April 22, and to the utter astonishment of every one. A decision was rendered granting it.

The case has since been re-argued before the same Judge, when the affidavits of all the members of the Board of Trustees, (in the city) except one, were presented denying the charges. The College was represented by John H. Anthon, Esq., (no decision has yet been rendered on the argument) now some five weeks.

The foregoing is a plain statement of the facts relating to the present temporary suspension of the "New York College of Dentistry." At present the Board of Trustees is full and the Faculty complete, with one exception, but under existing circumstances we are prevented from issuing our usual annual announcement, or transacting any other business. The President, Dr. Stephen A. Main, sustained by every

other member of the Board of Trustees, (except the complainant) and the entire Faculty, is determined to defend the College against this malicious attack, and feels confident of success.

In corroboration of the above I refer you to the President of the College, Dr. S. A. Main, 23 W. Twenty-third Street; the Vice President, Dr. Wm. H. Allen, 18 W. Eleventh Street; the Treasurer, Dr. John Allen, 22 Bond Street, and the Secretary, M. Mc. N. Walsh, Esq., 67 Nassau Street. Also, to the following members of the Faculty: F. D. Weisse, M. D., Rex W. Stein, M. D., and F. LeRoy Satterlee, M. D. Respectfully yours,

FRANK ABBOTT,
Dean of the Faculty, N. Y. C. D.

CHART OF THE PHYSIOLOGICAL ARRANGEMENT OF CRANIAL NERVES.

BY EDWARD RIVES, M. D.

This tabular arrangement of Cranial Nerves is a compilation suggested by the difficulty which students encounter in remembering this subject, and also by the frequency with which practitioners find it necessary to refer to their books for facts connected with it. Its object, of course, is simply to refresh the memory at a glance, and suggests details, the explanation of which must be sought for elsewhere.

Printed in large type, on a sheet 28 inches by 15 inches. Price 60 cents, mounted on card board, or folded in cloth case. The latter sent by mail on receipt of the price.

ROBERT CLARKE & Co.,
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Editorial.

NITROUS OXYD.

This agent still receives a good share of attention from the Dental profession. The subject is not yet well understood. After a constant and undivided devotion of mind and body to its consideration for a term of years, I feel my lack of knowledge in regard to it more than at the beginning of the investigation. Still I may be able to point out some mistakes into which other experimenters have fallen, and this, in all kindness, I will endeavor to do, to a limited extent.

Because protoxyd of nitrogen is rich in oxygen, and because it supports combustion, it has been claimed that, of course, it supports respiration by furnishing oxygen to the blood. Others claim that because the elements composing it are chemically united, it can not yield oxygen to the blood; and they illustrate their position by a reference to binoxyd of nitrogen, or nitric oxyd, which acts as a deadly poison when inhaled. Now, the theorizing is as bad in the one case as in the other, and in both is objectionable. The stereotyped phrase that in atmospheric air the nitrogen merely dilutes the oxygen, is as wide off the mark as either of the above theories, for the oxygen would occupy the same space it does if the nitrogen were obliterated.

Like all chemical substances, (and matter is all chemical) nitrous and nitric oxyd must be examined, each on its own merits.

In nitrous oxyd the elements are held together by a feeble affinity and are, therefore, easily separated in obedience to stronger affinities. On this principle it supports combustion, and on the same principle *may* support respiration. But we must not *infer* that it does so. Chemistry tolerates inferences when they are backed by demonstrations. There is some vagueness in reference to what is meant by supporting respiration. It is ordina-

rily used almost exclusively in connection with getting oxygen *into* the blood; but, in our waking hours, it comes much nearer meaning getting carbonic acid and water *out* of the blood.

It is true nitric oxyd is twice as rich in oxygen as nitrous oxyd; but it is not true that it is as ready to part with it. On the contrary, it most urgently demands more oxygen. So energetic is its affinity for oxygen that it takes two equivalents of this element from atmospheric air almost instantaneously, and the compound thus formed takes still another from water, if it be present. Nitric oxyd might be practically used as a deoxydizer much more extensively than it is. The terrible depression of vital force resulting from breathing nitric oxyd, even very much diluted, (for only thus it can be breathed) is partly and perhaps mainly due to its affinity for oxygen. Commingled with the blood, it takes the oxygen of reserve from the blood corpuscles, and they fail to support life in proportion to the degree of deprivation. But this is only half the story of its toxic effects when breathed. We have noticed that it rapidly takes two equivalents of oxygen from the atmosphere, and the result is nitrous acid. This in contact with watery vapor is changed to nitric acid, by its taking another equivalent of oxygen. This, with the increased energy due to its nascent condition, cauterizes the mucous membrane lining the air cells, and does any one suppose that when thus cauterized the membrane is in proper condition for the transmission of gases in either direction?

With nitrous oxyd the case is radically different. It is ever ready to *give* and but little inclined to *take* oxygen; and when inhaled *may* pass into the circulation and *may* yield oxygen to the blood. But does it? Just here let experience take the place of theory.

When pure nitrous oxyd is taken into the air cells it does not *all* come out again. This we have demonstrated scores of times. When respired there is usually a great increase of carbonic acid in the earlier expirations. This is beyond dispute. From breathing large doses of it the urine is increased in quantity, and contains more oxydized matter. These facts I have repeatedly demonstrated on myself and others. It will *sustain respiration a long time*, and it does so either by furnishing oxygen to the blood or by carrying off the carbonic acid and water, so that the oxy-

gen of reserve can supply the vital functions, or it may act in both these ways, for they are not incompatible, as is constantly proved by atmospheric air performing both offices in respiration. I have many times seen nitrous oxyd breathed for twenty minutes, while atmospheric air was rigidly excluded. I have so breathed it many times myself, and without the slightest loss of consciousness, and what is more, without change of complexion, sense of suffocation, or any inconvenience whatever. The results were the same with the others who did so, except that there was more or less complete loss of consciousness. One time I breathed it exactly an hour, taking just eleven breaths of air during the experiment, and was sufficiently conscious and self-possessed to thrust a protected steel instrument into my thigh once a minute, as was corroborated by counting the holes in the skin after the close of the experiment. During the greater part of the hour the respirations were from three to seven to the minute, while the pulse, frequently counted, was not found below sixty-seven nor above seventy-two. At no time during the hour was there any darkening of the complexion or sense of suffocation. The after effects will be omitted here for want of time and space. The experiment is not a prudent one.

In view of the above facts, my venerable friend of Syracuse, and my younger one of St. Louis, will excuse me if I state that a person can "live longer in such an atmosphere than he could live under water," and that a person would *not* "die as speedily from the inhalation of nitrous oxyd alone, without the simultaneous respiration of atmospheric air, as he would to breathe any gas which was deprived of oxygen."

In conclusion, we are not disposed to claim any credit for being able to rescue our friends from the mistakes into which they have fallen; for, though we have probably spent a month in the investigation of this subject for each day spent thus by them, they were busily engaged in other parts of the field of science, finding out facts and principles which we wanted to know, and many of which they have kindly told us already.

Brethren, let us candidly, frankly and dispassionately investigate this subject. If we fail to do so, it is likely to be neglected, for the medical profession has not the time or lacks the inclination to attend to it. Besides, anæsthesia is our baby. Let us nourish, cherish and protect it.

W.

DIFFICULTIES IN PRACTICE.

Many and various are the difficulties encountered by the skillful and observing Dental operator in the management and treatment of the natural teeth. A case in illustration of this statement was this day presented.

A young man, about twenty years of age, had ten or twelve teeth filled about fifteen months ago; three or four of the fillings were large, the remainder of medium size; some in the sides, others in the masticating surfaces. The dentine round nearly all these fillings were defective, decay to a greater or less extent having taken place; in some just about the margins of the fillings—in others penetrating to considerable depth. The fillings gave evidence of having been well introduced and consolidated, and the supposition is that the adaptation had been good; nevertheless, it is possible that there may have been defects in this respect. Upon examination and the preparation of other cavities, the enamel and dentine were both found to be very friable, easily disintegrated, so that it was almost impossible to make a smooth, even border to the cavity, and correspondingly difficult to make a perfect adaptation of the filling to such surface; and in such cases there is very great liability of comminuting or breaking the dentine about the orifice of the cavity, or the angle constituted by the wall of the cavity and the surface of the tooth about it. Such injury is very liable to be done by forcing the plugger against the dentine at the point in question, or even with the burnisher if the angle is not well protected by the gold. Indeed, in some instances, is the dentine so frail that even driving the gold against it will produce the injury, though the instrument does not touch the dentine.*

In all cases where a disintegration is thus effected, however well the cavity may be filled in other respects, decay will very soon occur.

Such teeth are certainly very unfavorable for successful operations, even in the hands of the most skillful—much more so in the hands of the unskillful.

The question occurs at this point: What is the best method of procedure?

In the first place, let there be no abrupt over-jutting portions of enamel or dentine about the orifice of a cavity to be filled; let the walls of the cavity be as nearly parallel with each other as possible all the way from the orifice to the bottom. In the next place remove the angle of enamel or dentine at the orifice, either with a reamer, which makes instead of the angle a concave bevel, and leaves two obtuse angles instead of one acute or right angle; a better plan is, with the proper cutting instrument and file, to remove the angle and substitute the round or bead form to the edge of the orifice; the size of this should be governed by the condition of the dentine.

Another particular requiring close attention is the introduction, adaptation and consolidation of the filling, especially at the orifice. Perhaps the most thorough adaptation of the filling upon such a border can be obtained by the use of non-adhesive gold foil; and this condensed with the most finely serrated pluggers, those of such form and cut and used in such a manner that the instrument will in no case touch the dentine, and let the gold be built up till every point of the border that has been cut by the chisel or file shall be perfectly protected. Care and skill are required in such cases in the use of the burnisher, lest by its heavy contact the enamel is broken. The round or bead like form of the angle at the orifice is not perhaps, in all cases, the best. For instance, in cavities upon the crown surfaces of the molars, in the depressions, when the cusps of opposing teeth strike, and the surface of the filling is necessarily to be concave; but in all cases of friable teeth, when the surface of a filling can be convex, the form suggested is preferable. T.



A PUFF.

With a strong feeling of local pride we announce a recent discovery that our city is ahead of all competitors, in the way of professional progress. Other cities, too, may boast of colleges, journals, authors and other such small fry, but we have a regular "Dentestery!" But don't suppose that a man who can invent and RUN a "Dentestery" will cramp his genius by a single department of business, for the neatly painted sign adds "Kupping," and if that doesn't spell cupping what does it spell? Then follows "Leaching," which is followed by "Vaccination," and the "railroad speed" of the street car carried us beyond reading distance before we got half way down the sign-board; but we are bound to find out what that fellow does at his "Dentestery." W.

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Original Communications.

ETHICS.

BY J. F. JOHNSON, D. D. S.

[Read before the Indiana Dental Association.]

Mr. President and Gentlemen of the Indiana State Dental Association :

I desire to call your attention for a short time to the consideration of the following question: Is the Code of Ethics which has been embodied into and made a part of the Constitution of the Indiana State Dental Association to be ignored, or shall we not hereafter demand a closer observance of its requirements, and thereby secure a better professional standing of membership in our State Association?

What I am about to say may be regarded by some as illiberal and arrogant, but waiving all fears of that sort and trusting to the candid and matured judgment of the experienced gentlemen present, I venture to assert the opinion that the generally lax system that prevails in the examination of candidates for membership, the careless observance of

the requirements of the Code of Ethics, and the general anxiety apparently to increase the strength of our professional edifice through members, rather than in the quality of the materials, has a tendency to retard, rather than advance the true interests of Dentistry, as well as to destroy in part the usefulness of all such bodies, by degrading them in the opinion of the profession and the world. There is, perhaps, no ~~more~~ ^{or} true aphorism than this, that the true index to the character of men is found in their associations. We can hardly, therefore, expect the hearty co-operation of the best materials in the profession, so long as we continue to make but little, if any distinction. It is quite as probable that the high-toned professional man would as naturally shrink from indiscriminate associations professionally, as do the same class in literary or polite circles of society.

There can be no doubt that the admission of a candidate to membership in this or any other Dental Association, is a virtual indorsement of him as a genuine representative, a qualified member of the profession. In brief, it is a recognition of him, full and complete, so far as the practice of Dentistry is concerned, and it should be so too; and that indorsement should be of relative value to each member as is the diploma to the graduate of a college, and such would be the case if the proper care and nerve ~~was~~ ^{were} used in examining applicants and reporting upon applications by the Board of Censors, and members would have firmness enough to vote their true sentiments, without affection or favor, malice or jealousy; in other words, if we would but *live up* to the Constitution and By-laws we have adopted for our government. We have, perhaps, all been equally in fault in this particular. I do not know of a single instance in this Association where the applicant has been rejected, or where the examination amounted to any thing more than a mere farce. If we have nothing but the best among us, we owe it, by far, more to good luck than carefulness on our part. I must not be un-

derstood as condemning any one even by implication. I am but speaking of general principles. If our associations cut loose from the rubbish and admit only well qualified, at any rate legitimate practitioners, we should then be acting in harmony with the generally expressed desire of nearly every well qualified man in the profession, and the vigorous stimulus this course would give to Dental education, would soon cause Dental Colleges to be better patronized, Dental literature more carefully read, and the term of pupilage adhered to with greater uniformity, with more general satisfaction and with more lasting benefit to all concerned. But it has been said that Dental associations are educators, which is true, to a certain extent, for we are all learners, and the popular idea has been to take cordially by the hand all who present themselves, and try to draw them up after us to the "heights of Dental science." This is a sort of poetical piece of justice and benevolence and very well in its place but the place is not a Dental Association. Very likely that sort of thing was necessary some time past and was then perhaps true philanthropy, perhaps good policy. It would not be so in my judgment now. The necessity no longer exists. The Dental Associations now are called upon to give tone, and by unity of purpose support and reorganize the worthy practitioner as far as may be, and not to bolster up, as is now unfortunately by far too often the case, the merest apology for a Dentist. Therefore, I think if we expect to increase the usefulness of our associations, we must begin by making them entitled to the respect and active support of the best among us; in brief, "not to put too fine a point upon it," I am in favor of a select Dental Association, conducted upon the same principles substantially that controls good society every where, or good medical or legal associations any where. Dental Associations, therefore, although educators, ought not to be relied upon for the purpose of fitting students or others for practice, or in any way to supersede the colleges in this legitimate work. They should

be auxiliary thereto and create, by their high position, a still greater demand for a collegiate course from all those who desire to enter their portals. If, then, the leading portion of the profession could be thoroughly united and have fixed views and rules as to length of pupilage, course of studies, etc., they would soon draw after them the major part of those who will long continue to practice, for, in this day of enlightenment and of opportunities to be informed, no countenance should or would long be given to quacks or incompetents.

The Convention of the College Faculties in Philadelphia was a very important advance step in Dental education. It can not but be gratifying to every regular graduate of any of them to learn that the almost reckless graduating for a monied consideration, by honorary degrees, has been by nearly all of them abandoned, and it is not difficult to see, at least I venture to predict, that any institution of Dental education that will continue to do as heretofore, or withholds its influence from this wholesome movement will not long receive the support of the educated and influential members of the profession, nor will much value attach to its diplomas. However, but little good, comparatively speaking, can be expected from the high position taken by our Dental Colleges, whilst our associations continue to take into full fellowship every self-styled D. D. S. that presents himself. The fact is, as a profession, we are beset by a brazen set of fellows, who are sometimes taken into respectable offices and who take mortal offense if not introduced to all visitors as doctor. Members here agree not to take a student for a shorter term than two years, which is in reality not long enough; but how many live up to it? Why, we know of their being frequently started out as full blown roses in the profession in from six to twelve months, and the parties so doing have the hardihood to sometimes complain of cheap Dental competition, and tell you very gravely and lackadaisically that the profession is going to the dogs, which is cor-

rect, so far as they are concerned. Such men should be made to feel that they have not acted in good faith with us, but have violated the Code and, instead of being elevated to positions of trust and honor, as is sometimes done, should receive the condemnation of the Association. This style of man, this hot bed growth and grower, with more brass than manners, often calls and claims the attention and hospitalities of gentlemen. He rushes into your office and private surgery, not waiting for the formality of being asked; strides up to your chair, if you are engaged, to observe you whilst operating, regardless of the feelings of yourself or patient. He perhaps may attempt an apology by saying he will not take your time from business, but talk to you then and there, and very likely tell you he is taking items. This sort of individual has generally several assistants at home, who are left perfectly overwhelmed with work and are at that time making frantic efforts, night and day, to get through engagements. He had just to tare himself away. or slip off and take a little time to recuperate his wasted energies. We talk longingly and admiringly of dignity, professional etiquette and all that, but we must select for our students young men capable of such sentiments, and for our associates such as have these traits, if we expect to realize our desires.

We have recently been besieging our Legislature with a view to get a bill passed to regulate the practice of Dentistry. Although not successful in bringing it to a final vote on account of a press of other matter that had precedence, we were yet received with uniform courtesy and kindness, and so far as we could learn, with but very few exceptions, the restrictive law proposed was looked upon with favor. But with what propriety can we importune our legislators to take an active interest in this matter, if we who are far more concerned and whose especial business it is, fail to do for ourselves what is within our power and can reasonably be expected of us? We ask the Legislature to protect us

by law from the machinations of quacks, and do absolutely nothing to guard ourselves by the means that is at our command. This is unreasonable, to say the least; therefore, I take this position, if we wish to see a law passed regulating Dental practice, to be consistent we must take a decided stand in a fixed antagonism in our societies to all quacks and merely mercenary practitioners, and then if all worthy Dentists would unite with us, which they would be much more inclined to do under such an organization, the mere charlatan would be powerless to drag us down to his level in any case. We must have respect for ourselves if we wish others to respect us. Our societies must be careful then as to whom they admit to full membership, not losing sight of the fact that this membership is a full indorsement before the world. The old self made Dentist, who has plodded his way wearily through tribulation, without any of the advantages now within the reach of all will be found ready and anxious to subscribe to these rules, and none will recognize their entire justness quicker than he. It is the Dentist of to-day who has no occasion and no excuse to go among the public unprepared, who should hesitate long before taking that step; and it is the merely unprincipled charlatans, anxious to make money easily, as they suppose, and caring but little how dishonestly, who will be found quarreling over this classification. Hereafter then, the graduate only of a regularly organized and chartered College, or the practitioner of from six to ten years standing, should be eligible or entitled to full fellowship in the profession. We owe this to the Colleges, to society at large and ourselves. The utmost courtesy, however, should be exhibited to all worthy young men who are making laudable and honorable efforts to complete their course. The want of sufficient means deters many from following the bent of their inclinations. We should encourage such by employing them when we can, and urge them to abstain from general practice independently until they have been found fit, by a regular faculty, to discharge its varied,

important and responsible duties creditably and honorably ; and if such, or any others who are not eligible to membership are present and seeking to be benefited by our discussions and deliberations, let us invite them heartily, cordially and kindly to sit with us, but let us cease to make active members of any such persons until their course is completed. Then if we take this position we can, with far more courage and a better prospect of success, appeal to the Legislature and the communities there represented, until the justice and necessity of a restrictive law will ultimately be demanded by others than ourselves and receive no serious opposition. But if even the Legislature should unfortunately fail us in this respect, we will have established the line of demarkation ourselves so thoroughly that the people will soon learn to observe and profit by it. Thus we shall gradually and surely educate the public up to a point wherein they can use some discrimination and create a status that the intelligent portion will not be slow to observe. Of course this can not be done entirely, but sufficiently to make the real Dentist feel much more comfortable in his position ; he will feel that he is better appreciated and recognized as a member of a dignified and respectable profession. That the public do need more information on this point we all agree and many have had cause to regret. I have now in my possession a letter from a worthy gentleman, who finds his business almost ruined by the devices of what he styles "these cheap Dentists," who, he says, make it a point to extract the natural teeth, good or bad, when they can, and replace them with artificial, greatly cheaper than a good operator can fill and save them, and this community have not cultivation enough as yet to know any better ; at least they are not enlightened on this subject. Now, if such Dentists as just spoken of applied for admission into this Association, in my judgment, they ought to be rejected. Or, if we have any such now as members they ought to be expelled. The fact is, young men are too much inclined to consider themselves Dentists as soon as they can

fit up and vulcanize a set of teeth, and that, too often in a very inferior manner. Their preceptors are frequently to blame for this; instead of placing the literature of the profession in their hands, their students are more frequently supplied with an impression, some old artificial teeth, &c. and they are told to go to work and "put up a job." Gentlemen, this is all wrong; we shall retrograde, rather than advance, under such a system. We do ourselves injustice and the students also, and the communities in which these individuals may eventually locate, a still greater injustice. At first blush it may appear to young students that I am in antagonism with them—that I am an enemy to such. I am sure that on reflection they will arrive at a different conclusion. I am well convinced, however, that any respectable young man would not care to enter a profession that guarded its doors less carefully than the course indicated in these remarks would have them.

I am aware, nevertheless, that I have been traveling over very dangerous ground in my efforts to find a direct road to a more elevated position for Dentistry as a profession. I have done this fearlessly, however, having no ill-will toward any individual member of the profession or association, neither have I had reference to any one in the Association, for I trust all would be found worthy after the most rigid examination. These thoughts are expressed candidly, without enmity, affection or favor to any one, and for the common good. The motive being pure, I shall not fear that any ill-will toward myself will grow out of it, and if it does after this frank avowal and disclaimer of any evil intent, I shall not care.



MICROSCOPY OF THE DENTINAL TUBULI.

BY S. P. CUTLER, M. D., A. E. G., D. D. S., HOLLY SPRINGS, MISS.

It might be supposed that the above subject is already overdone, hackneyed, threadbare and seedy. On the contrary, this subject is not even a settled question as yet; still

discrepancies of opinion exist in relation to the exact anatomy and functions of these structures. Several years ago when I first published some articles on the above subject, the microscopists of Europe had adopted the views of Kölliker and others, and a large majority in this country who had written any thing on the subject at all. It is well known that Kölliker had conceived the idea of a fluid-filling and occupying the tubuli and vicariously fulfilling the functions of sensorial nerves, besides that of nutrition. Now the latter function may be carried on beyond the terminal branches of nerves, as in cartilages, tendons and true bone structure, but there can not be shown an instance where true sensibility can be manifested without the influence of nerves per se. The very idea then, of supposing the sensibility of dentine depends on a fluid alone, to me seemed preposterous in the extreme; hence, I went to work in earnest to upset what seemed to me to be so great an absurdity. When I announced that a large molar tooth had from ten to twenty or more millions of nerve filaments, the very idea met with ridicule. I now propose to let any person make their own calculations, and see how far from actual truth I may have been led. Let any competent microscopist prepare a specimen of dentine, just under the enamel, where all the coronal or distal tubuli perforate the specimen, and measure their distances apart or see how many there are to the line, then square the number, he will find there is about 3,000 to the lineal inch; now let him square that and see what the result will be; he will find he has 9,000,000, which would be a small average for molar surfaces, even after the cement and enamel is removed, and in an extreme case two superficial square inches may be calculated on. In the above calculation I have not taken into consideration the incalculable numbers of minute branches found in the roots of teeth, running out laterally on all sides from the tubuli throughout their whole course from nerve cavity to the coronal branches. When these branches are all taken into account, it will be almost

impossible to conceive of their numbers. In some roots these lateral branches are found to be much more numerous than in others. These lateral branchings are never found in the tubuli that lead up to the enamel, but may be found in the balance, though not always. In the roots the tubuli penetrate and reach the surface of cement through the anastomosis of the tubuli and canaliculi, this fact being proven by the sensibility of denuded or naked roots from absorption of alveolus and gums. In such cases the root surface sometimes becomes exceedingly sensitive to the touch of the finger-nail or brush. All Dentists have witnessed this fact, even in cases where almost the entire root has been exposed for years, showing the great tenacity of life of the nerve fibrils in dentine and cement. This fact of itself would be sufficient, if no other proof existed, to establish, beyond doubt, the existence of true nerve fibrils in the tubuli, at least in the roots of teeth. The proof of the existence of nerve fibrils in tubuli of crown present, if any odds, still stronger proofs. First, take the file and cut down through the enamel to the dentine; in many cases pain will be felt, not by filing down on to tubuli filled with water or any other fluid, but by wounding of true sensorial nerve filaments by the thousands, each and all contributing their share to the aggregate amount of pain produced. Again, in cases of sensitive decays in teeth, when the excavator is raked across the floor of the cavity, sharp, intolerable pain will be felt, causing nervous patients to writhe. Could such intense suffering be caused by opening tubes filled only with fluid? What a preposterous idea? Who can credit this? Now, for the sake of argument, let us admit that the tubuli are occupied alone by fluid; when decay reaches and perforates these tubes, what prevents the fluid from escaping from the tubes into the cavity of decay? There is no good reason to suppose that such would not be the case, then what would become of the medium of sensibility? Can any one who has paid close attention to the study of the sensibility of the teeth, entertain

any such opinion, especially if he has made minute microscopic investigations of the teeth? When a great man announces a fact or hypothesis, all are ready to adopt his opinion without further inquiry. This seems to be the case in relation to the fluid hypothesis, as above stated. Nutrition, by osmotic force, may take place beyond the limits of nerve fibrils, but never sensibility or motion.

The teeth, like the dermis, combines the three great systems, the dermal, neural and hemal; the enamel representing the epidermis, the dentine the dermis, the blood vessels of the pulp representing the hemal, and the mucus of pulp and fluids the neural. The basement membrane encloses the hemal and neural system in the teeth, but leaves the inter-tubular spaces, mostly composed of lime, outside of this basement membrane. This membrane may be supposed to line the pulp canal and the tubuli throughout their entire extent, and cover the ends of fibrils at their terminations under the base of the enamel and surface of cement, thereby entirely enclosing the fibrils throughout their entire extent, and each one separately, after leaving pulp cavity and entering the tubes. In the case of the teeth the basement membrane is projected far beyond the hemal. This, however, is the case every where throughout the system, though to a limited extent, except in a few instances, the corneal coat of the eye being most striking; also, crystalline lens. The enamel may be regarded as exuvial, only being so hard that desquamation does not take place is not thrown off like the epidermis, and constantly rebuilt by the basement at its surface by actual evolution of new cells from the protoplasm. The dentine can not be supposed to belong to the osseous system, as it is not enclosed within this basement system, as that membrane is supposed to be a closed sack, without being perforated or penetrated any where. The osseous system is included within that shut sack. In other words, the animal proper dwells within this sack, and all nutritive plasma and oxygen on the one hand

penetrate this sack from without, and carbonic acid, water, ammonia and other waste matters pass out through this membrane by what is perhaps improperly termed *osmosis*, *exosmosis* and *endosmosis*. These agents and elements of decay and reproduction all pass this closed sack without any open doors or windows, the membrane permitting them to pass through as gases and liquid, in a normal condition only. How they find their way through it is not necessary to discuss in this paper. As to the nutrition of tubular filaments occupying the dentinal tubes, they may be presumed to derive their supply from the pulp, first passing out around the fibrils and within the delicate neurilemma supposed to enclose the filaments, or they may draw their entire nutrition from the liquor sanguinis found to exist outside of pulp in pulp cavity, then passing through the tubes outside of fibrils, where there is sufficient space for such purpose. This fluid, in this case, would be carried along the inner walls of tubes, not by osmosis, but by capillary force or attraction, and again into the substance of the filament itself, throughout their entire course, by osmosis through the membrane or neurilemma. Now, if this membrane be regarded as the basement membrane, and not that lining the bony walls of pulp cavity and tubuli; then in this case the nutritive plasma must first pass outside of the basement membrane, and then in again; after entering the tubes which would constitute an anomaly in this instance and perhaps peculiar to the teeth alone. Let it be as it may, there is found to exist a fluid in pulp cavity and in tubuli, outside of nerve fibril, which does perhaps, in some cases of decay at least, if not all, pour out though in exceedingly small quantities, a fluid or moisture. Even after a tooth is filled there may be a certain amount of fluid coming to the surface of the decay around the filling. In cases of an acid diathesis, especially in young subjects, sufficient may accumulate at the surface of cavity and around the filling to set up a softening and ultimately dropping of filling, from the corroding effects of the acid, and the tooth

is rapidly destroyed, unless treated and refilled. I am confident, I have had such cases in my practice. In some cases there might be another cause assigned for the presence of this acid. The nerve filaments running up to the bottom of the cavity may ultimately decompose or lose their vitality after a time, by the impressions of heat and cold through the conducting agency of the filling, and by their decomposition sufficient acid might be generated to ultimately soften the dentine at the bottom of the cavity, and subsequently loosen the filling so as to let it drop out, at the same time most of the nerve filaments on the sides of the cavity retaining their vitality and the pulp itself remain comparatively healthy. All unfavorable forms of decay, especially the white, should receive treatment, or at least an application of creosote and tannin, and retention for a sufficient length of time to allow capillary absorption into tubuli around fibrils. Styptic colloid may be used in some cases with decided advantage, allowing a pellicle to remain in the bottom of cavity as a non-conductor, and fill in the usual way. Returning to the fluid hypothesis: How could it be possible for a fluid, supposing the tubes contained nothing else, to be put in motion so as to cause pain by impinging on the pulp in its cavity by simply raking an excavator across the cavity, so as to wound the tubuli. The sharp, thin edge cutting across could not act like a piston in a force pump, so as to force the fluid rapidly through the tubes. Supposing such a thing possible and that such tubuli had a small piston forced into them through the decay what would be the result? The amount in these minute tubes, when forced into the pulp cavity, would act precisely like a hydrostatic press; the power would be very great, provided there was sufficient fluid in the tubes to forcibly condense the fluid already in the pulp cavity. The power in the supposed case would be multiplied in proportion to the diameter of the aggregate tubuli, multiplied into the superficies of pulp chamber; that

is, the power exerted on the pistons applied to tubes. But no such thing can be supposed, as an excavator can not be supposed to produce any such result. Even admitting, for sake of argument, that such be the case, the pressure would be equal on all sides throughout the pulp cavity, and the only effect produced on the pulp would be simple pressure alone, and who could say that even acute pain would be the result of such pressure. No such condition of things can possibly exist. I contend that a fluid like liquor sanguinis could not be forced rapidly through tubes as small as tubuli; the largest at the nerve cavity being 1-100000 of an inch, and just under the enamel 5 or 6 times smaller, where generally the greatest sensibility is experienced. The pain is felt the very instant the touch is made with the rapidity of thought. The only mode by which a fluid can be made to pass through such small tubes, through such an unyielding substance as the dentine, is by capillary attraction or force, which requires a given time, and perhaps no degree of force could in any way accelerate the motion of the fluid in such tubes. Need I argue further? Is not the proof convincing to every one?

Is cement true bone? I maintain it is something more, as when the surface of a root of tooth has been denuded and apparently dry for a length of time, there is frequently felt great sensibility. No such sensibility is felt where true bone has been denuded, as the canaliculi and lacunæ of bone do not contain nerve filaments, neither do the inter-tubular spaces.

The cement receives its nerve fibrils from the pulp through the anastomosing tubuli and not the pericementum.

In all other respects cement resembles true bone, with this difference: in the cement there is no Haversian canals in its normal condition.

Good

HOW TO CONDUCT A DENTAL PRACTICE.

BY W. F. MORRILL, D. D. S.

Read before the Indiana State Society.

"Men are sometimes masters of their fate."—*Shakspeare.*

It is generally conceded that every one who has practiced Dentistry for any considerable number of years, understands best how to manage his own affairs. To be able to give advice, or speak with confidence on a subject, engrossing so large a share of your own experiences, pre-supposes an ample stock of my own; otherwise, what is said must be considered only as vague theories, and not of much value. In support, then, of what I may offer, allow me to say that my Dental practice extends over a score of years, back to 1849. In the swift currents of our prosperous profession, this venerableness of years ought to entitle me to speak with some degree of boldness and plainness; and with such experiences as I may draw from, having no very gay botanical plants scattered along my pathway, you are welcome to weigh, compare and possibly to digest them.

When Oliver Cromwell returned from his campaign, he entered the studio of an artist to have his portrait painted, and, throwing down his hat, he exclaimed, "paint the wrinkles!" Possibly, in this attempt of mine to serve you with a faithful copy, I may be compelled, in order that my delineations of Dental practice shall be better understood, to add a few wrinkles. And, if in these outlines, there be a close resemblance—a striking likeness—to those wrinkles, which any of you here present may bear, remember you can yet amend your professional campaign, and avoid the blush they may occasion you.

Without further prelude, let me say, as a means toward conducting a Dental practice right, much is accomplished by organizing into societies, and meeting together regularly and periodically. This frequent interchange of sentiment and ideas result in good. These are opportunities for gathering

useful hints, and strengthening our professional manhood. By mingling here pleasantly, we promote a more general impulse and systematic direction in research after scientific knowledge; our prejudices are softened down; our antipathies are obliterated, and an influence at once salutary and ennobling is exerted. We can not keep ourselves aloof from these periodical gatherings without losing the zest and incentives to progress, and without deteriorating in our acquaintance with various methods of practice. Those who profess to see no advantages to be derived from this source, and are inimical to these organizations, may often be found specimens of bigotry, self-conceit, and narrow-mindedness. I recollect an instance of the kind. An old practitioner who never had been present at one of these meetings, received an invitation, and to the surprise of those who knew him, he came. His Websterian proportions impressed me favorably. I anticipated a treat from his gathered years of experience and ripened wisdom; but it was reserved for me to be disappointed. He no sooner rose to speak than he began to display a bundle of conceits—a strange medley of practice—rarely, if ever before witnessed. He showered on us some of the most stupendous physiological problems and monstrosities the keenest and most astute ever saw. He unfolded the pathological conditions of his remarkable cases with surprising gusto. But his dignity was mere pomposity; his methods, so marvelous to himself and us, possessed more of necromancy than science; his performances were so incredible and self-laudatory, they seem to belong more to an age of superstition than to a modern day. On taking his seat, the sharp arrows of inquiry that immediately followed into his *adroit* methods of practice, so disconcerted his equanimity, that he lost his temper and his manners, and stalked defiantly out of the hall. This absenting himself was a great loss to him, not to the society. Had he remained, his mortification and chagrin might have been turned into an awakened sense of his own ignorance and stupendous folly.

It is hardly possible, not probable, any one man can master all that is worth knowing in Dental practice, and then shut himself up like a snail or a hybernating *ursus*. The wisest thing a turtle does is to stick his head out of his shell; it is good for the turtle, and complimentary to other turtles. We are presumed to gain by the tried experiences of others—especially so, when the qualifications are superior to our own. It is here we receive the records of those in the field of practice; we investigate their facts, observations, and experiences, to see how far they tally with our own. These are some of the advantages flowing out of organizations beneficial to the conduct of a Dental practice. Every practitioner who has been regular in his attendance here, who extends his courtesies, and enjoys the sweet amenities of these occasions, can not fail afterwards to improve his Dental practice.

Among the essentials that seem to form a connecting link in the plan of my subject, but on which I am not very competent to speak, is correct taste in Dental practice. That this faculty is of great practical importance, I need not suggest. On it hinge the beauty and excellence of all Dental operations. Without it, discouragements, failures and disasters are the natural consequences. Out of the vast number of Dental operations made, only a few display the exquisite virtues of this great element. If proof were wanted of its dearth, we have but to turn our eyes toward the countless number of unsightly specimens, everywhere exhibited, by contour of features, in mouths with a dumpling-like puff, or a lemon-like squeeze, showing the hand that made those teeth was not divine, but very false indeed!

Now, what do we understand by taste? "It is, says Webster, "judgment, discernment, a power of perceiving and relishing excellence in human performances; that faculty of discerning beauty, order, congruity, proportion; or whatever else constitutes excellence, particularly in art and science." We are valued in society, we are estimated by our co-labor-

ers, just in proportion as we possess this esthetical faculty; and it is, therefore, of the highest importance to have it. It is, moreover, true, we have comparatively few models in Dental art and science by which to form a correct taste. In operative Dentistry, especially, the fillings regarded as first class, displaying a versatility of art, and unexceptionable good taste, are not so numerous as they should be. Many practitioners yet move along in certain ruts or grooves of traditionary methods, whereby they leave their paternal impress on nearly every operation they make. To patriarchs and prophets from whom they received their revelations, they cling with a persistence and fidelity marvelous to behold.

For the display of this attribute, deservedly called taste, the field of Dentistry is wide and plenteous. Its value so inestimable in the management of a Dental practice that I proceed to show how we may improve its properties. This may be done by familiarizing ourselves with those models and methods conceded to be superior and regarded as perfect as human performances can make them. Until this acquaintance is established no one should suffer egotism to lull him, into a fancied security of having to any very great extent this faculty. Its possession involves culture, expenditure of time, energy, diligence, and a keen relish for the beautiful in art and science. If you are exemplars of taste, the character of your operations will show it; and on the character of your operations will be your pre-requisite duty or else the management of your Dental practice at the outset will be poorly begun.

Closely allied and inseparably connected with the cultivation of taste, is art. Its principles in Dental practice are not generally well enough understood to make either great boastings or pretensions. Nevertheless, every operation in Dentistry has appropriate art. "Expression," says Powers, "is art." "Form is the essence of expression, and conveys precisely the signification of the thing." How much of this essence of expression, do we see in a large majority of arti-

ficial dentures, or in fillings, which have not restored the complete loss of the tooth substance? In the oral cavities there are many hideous deformities. Nature there sometimes plays her ugliest pranks. Unless we can remedy and restore, we falsify and degrade our vocation. Into these new creations of our own we are called on to mould regularity, harmony, proportion, comeliness and beauty; "to put into them life and seeming intellect, where before were decay and unbreathing forms." We are compelled to improve on nature, or else, into the sphere of art we do not rise. And "out of the supernatural is art born." If we would command success in the domain of art, we must endeavor to acquaint ourselves with the principles which underlie its foundation; and, with a trained eye and practiced hand, we shall see rising into triumphs and perfections our ideal embodiments, that add honor and lustre to our profession.

Some larger and lesser rules for the conduct of a Dental practice enter into my plans, which I now proceed to notice. Certain virtues are of great necessity to a Dentist, and certain vices are to be guarded against. Our duty involves the practice of every virtue, and the shunning of every vice. Our relations to our patients are intimate, delicate, confiding in their character, and must need be preserved inviolable and intact. We can not be too punctillious in what occurs in the presence of patients. Conversations, manners, habits, are all carried home, there to form the subjects for comment and scrutiny. See to it that these be without blemish. Your manners should not have an air of harshness, nor pevishness, nor rudeness. Be neither frivolous nor effeminate. If you wish to spur up your patient to more resolution and courage, do it without provoking contempt. Gain his confidence by telling him the truth, if any representations are to be made. Interest your patients when circumstances will admit, on topics genial and pleasant. If they desire information on the teeth, give it to them in such doses as they will be able to bear. Season your teachings with a trace of spice, and avoid

the use of technical terms. Avoid astonishing your patients with two things—your remarks and your performances. Truth, and no lying, should guild conversation and the character of your operations. Be guarded in your promises if it fails, the mischief can not be easily repaired by apologies.

The rooms of your office should be free as possible from indicating the nature of your calling. They should be plain, neat and comfortable, yet strictly conform to a discreet taste. Any display above this, excessive ornament, colored anatomical lithographs, skulls, specimens of old teeth in bottles, or relics of any kind, savoring of your occupation, not excepting even specimens of artificial teeth in show cases, should be concealed from public eye. If you have any of these, let them be brought forth only on rare occasions. It is not necessary for these many signboards to your vocation; nor will they furnish additional proof that you are either profound or proficient. Napkins soiled, spots of blood any where visible, instruments clinging with debris, or any taint saluting your patients may prevent a repetition of their visits to your office. While operating, have as few mishaps occur as possible; make your guards secure that no instruments shall slip into the soft parts—an injury is scarcely to be atoned for by apologies.

Attentions to your own personal neatness and cleanliness are not to be slighted or neglected. Don Quixote's advice to Sancho Panza when about becoming a governor of an island, respecting the cleanliness of his finger nails, and other admonitions quaint and homely, would not be impertinent to our day. A due regard for the graces of neatness and cleanliness adds much towards refinement and godliness. Finery, gentility, suited to a bar-tender, dry goods clerk, or gambler, would hardly be appropriate for a gentleman, and a Dentist. For the fashion of dress, let it be dictated by discreet taste—tidy, and a happy medium between extremes. Professional emblems are pretty, but queer taste. The fumes

of liquor or smoke in your office will put your practice on the wane. There is an impressible conflict—a moral antagonism—between Dental practice and foul habits. Let purity be your personal aroma. The office is sometimes a convenient place for friends to drop in and chat. Have no long tarryings there. Ladies do not like to enter where loungers congregate. Freeze out these interlopers by words or looks. Have your time so arranged that each hour may be profitably employed. Stick close to your office the first ten years; after that the habit becomes fixed, and you need have no fears afterwards. /

I desire to call your notice to another habit, almost too trivial to mention, yet, as you will perceive, it deserves a passing notice. I allude to a disposition to complain and repine over the mishaps and perplexities of life. A tolerably fair acquaintance with Dentists, induces me to believe the invalid corps among them is large. If we may credit the reports of themselves, it is surprising so many of them are above ground. The maladies of which they complain, strange to say, are not of such a malignant type as to carry any of them off; nor have our “guides to health” proved sufficiently efficacious in restoring them. Indeed, it would hardly be safe to say that their bodily ailments are chiefly under the heads of rheumatism, dyspepsia, headaches, back-aches and kindred complaints; but most probably they are the result of vexations, frictions of a burdensome Dental practice, the increasing cares of their domestic circle, that make these repinings their staple topic. But however ready told they are, and the sympathetic tear be ready to fall “in piteous chase,” no alleviation of distresses ever come by these complainings. Make labor—well directed industry—bring you heroic doses of greenbacks, and my word for it, the ills of life will tone down, and you will not be a *weeping-willow* of the profession. A fair credit in bank is the grandest prophylactic against sourness, ill temper, and crabbiness the world ever saw. It makes a lengthened, doleful, per-

simon face round out fat, jolly, mirthful and rollicking. It is the completest antacid materia medica can offer.

But, confess it we must, Dentists, like preachers and poets mostly die poor, and die young. They do not burn to "the socket," though money burns in their pocket. Free, generous, hospitable, refined in their sensibilities and cultivation, they are not apt to become rich. Strange as it may appear between the art of money keeping, and the art of Dentistry, there seems an incompatibility.

Finances is an earnest, central fact ever staring us in the face, whether in our waking moments, or in the whispering slumbers of the night. It steals in on us like some insolent and unwelcome ghost; nor can we escape or flee from this all absorbing phantom, however imperious he may be in his demands.

The expenses of home, office, state, municipal, county, internal revenue, taxes, patent royalties, and a thousand others, ever throng our minds for solution. Can you expect to meet these obligations promptly, and have them liquidated by charging low fees? If you can, your abilities as financiers surpass those whom we have of late seen vacate the departments of the United States Treasury. Lowness of fees, as a rule of practice, is not honest to yourself, nor respectable to others. A practitioner who adopts low fees, degrades his calling below the barber who leeches, cups and draws teeth. Under sharp competition, I am aware how hard and difficult it is to conduct a practice within the strict rules of propriety and the "code;" nevertheless, it rarely pays to lose our self-respect, professional pride, and dignity, by doing a mean and contemptible act.

There is also another practice to which some are addicted that is alike disreputable and ungenerous. I allude to advertising. I regret to say there is a class of Dentists who have a propensity to appear in print, thereby hoping to make themselves suddenly rich; in both of these enterprises they fail. They get up some trap, or what they consider a new

fangled notion, and forthwith they have affixed the seal of a patent upon it; then, in huge "caps," cuts and circulars they herald it to the public. These are, *false teeth on new base*. They are certain to supersede rubber or any other elastic material. These presumptuous advertisers are fond of telling the public how gifted they are; how superior and profoundly unique are their methods compared with those of their neighbors. Their discoveries are all their own; and everybody else is in blissful ignorance of them—"springs to catch wood-cock." The people, attracted by such humbugs, are usually an indifferent and unpleasant class; they will not stick fast friends to any one. To such ambitions as these, I say, squelch them. Remember as you have received good gifts yourselves, so likewise you should give good gifts in return. And what proportion can you even then repay to cancel the great debt of gratitude you owe? *Respect your profession* by shouldering its burdens, by making contributions to science and art, by living upright and honorable to the highest code of ethics, and by doing no act which will lower you in your own estimate, or in that of others.

Dental practice, to some, is a fickle God. In spite of all efforts it sometimes takes wing. Owing to circumstances, of instability of finances and commercial affairs, of improper means employed by mountebanks, or other attendant peculiarities of your own, which I can not presume to conjecture, these interludes, happen. It does not appear merciful nor kind, but you accept the situation. Moreover, there occurs a long blank to some, separating them from the object of their ambition. Many are lost by the wayside. They have

"Waited with a martyr smile

Hope ever whispering, *yet a little while*;
Too proud to stoop beneath thy noble aim,
While prostrate meanness crawls to wealth and fame;
Thou all unfriended as thy blossoms fade,
In the chill circle of thy seniors shade;
Go, spurn the art that every boon denies,
Till age sits glossy in thy sunken eyes;
Go, scorn the treasury that withholds its store,
'Till hope grows cold, and blessings bless no more."

If these inter-regnums of leisure come to you, devote yourself to the calm pursuit of Dental truths, to a liberal range of knowledge which busy periods do not afford, and these trying days will roll away, and the fulfillment of the golden harvest so long in expectancy may yet be yours.

Remember, in the management of Dental practice, *pluck* is a great element of strength. It denotes concentrated energy, will, courage, prompt decision. It bears the relation to the ordinary propelling powers of man, that an additional steamboiler does to an engine. It may be innate, born the same as poesy, sculpture, or painting, and it may be cultivated and nursed into vigor and strength. At all events, whatever may be your accomplishments as a dextrous operator, whatever may be your researches after science, whatever may be the estimate you are held in society, whatever may be your qualities of head and heart, whatever may be the ordeals or experiences through which you may pass, if you have not this mental force you are a comparative failure. Select from those brilliant patterns of thrift who leave their marks on the world, and you have models from which you can study and work out that which gave those men success, and endeavor to incorporate into your daily practice such parts as may be practicable to your own condition. But be not allured from your professional pathway by schemes of speculation, nor by the tempting and debasing emoluments of office. These are thrice apt to bring ruin and disaster. "Small and steady gains ensure tranquility of mind," is a pocket piece worth carrying.

Gentlemen, let us bear the ills of life with the same constancy with which others endure them, accept our manly part, hold our own and ask no more.

ADDRESS OF DR. W. W. ALLPORT, BEFORE THE
ILLINOIS STATE MICROSCOPICAL SOCIETY.

LADIES AND GENTLEMEN :—The character, as well as the large number present this evening, indicates an interest felt by the most respectable and influential portion of our citizens in "The State Microscopical Society of Illinois," hardly hoped for by its projectors and those who were the most instrumental in its organization. In view of the manifest interest felt in this society, I have been requested to state to you its origin, present condition and objects, as well as some of the uses of the microscope. In the early part of the past winter a circular was issued from "The Chicago Academy of Natural Sciences," inviting all those in the city who took an interest in microscopical investigations to meet at their rooms for the purpose of organizing a microscopical section to the academy. Agreeably to this invitation, quite a respectable number of gentlemen met. At this meeting a diversity of opinion existed. Some were in favor of a society that should work in connection with the academy, while others wished a separate organization. A committee was appointed to take the matter under consideration, and to report their conclusions, and a plan for organization at a subsequent meeting. After holding several meetings, at which the report of the committee, and the views of the various gentlemen present, were fully discussed, it was thought that an independent society could be more easily managed, and that more good could be accomplished by it than by working as an adjunct to any other society. As a result of this conclusion a temporary organization, which has been known as "The Chicago Microscopical Club," was formed. A bill was immediately prepared and sent to our State Legislature, and a law was passed incorporating "The State Microscopical Society of Illinois," under which act of incorporation we are now organized and acting, and into which the Chicago Microscopical Club has been merged. From the statement I have

made you will see that our society is but a few months old; and yet I am pleased to state that we have some sixty resident members, among whom are some of the leading members of the medical profession and the best amateur microscopists of the city and State. Hardly a meeting has passed recently at which we have not received donations to our cabinet, either from our own members or from microscopists residing in different parts of the country, some of which, as you will see, are exceedingly rare, beautifully prepared, and artistically mounted. We are also receiving offers of exchanges and donations from prominent microscopists and the officers of kindred associations not only at home, but abroad. The proceedings of some of our meetings have been published in the scientific journals of Europe, as well as of our own country. From the past, the society has every reason to be encouraged and to look with hope to the future; expecting, as it does, that its list of resident working members will be largely increased at our next meeting, which, in accordance with the provisions of our by-laws, will not occur until the first Friday in October. In addition to resident membership the by-laws of the society provide for honorary, associate and corresponding memberships. And, while we intend to be somewhat liberal in the admission of resident members, care will be exercised to admit none to the other memberships whose name would not be an honor to the society, or whose contributions will not increase the interest of its meetings, and the usefulness of the society. The leading object of the society will be the cultivation of microscopy in the investigation and demonstration of scientific subjects. Committees have been appointed for the special systematic investigation of floral structures, infusoria, cryptogamous plants, vegetable and animal histology, vegetable and animal pathology, vegetable and animal parasites, crystallography, and kindred branches, during the ensuing year. Besides which it is desired to make the microscope useful in social and commercial interests, by detecting adulteration in

food and fraud in fabrics, and to exhibit, from time to time, so far as may be possible, to such of our citizens as may appreciate it, the minute handiwork of our Creator, as it can be seen in no other way than through the almost infinite vision of the microscope. In all His works, however we may enlarge or refine our vision, we find nothing common or unworthy our notice. The eager traveler crosses oceans and continents, climbs rocks and mountains, that he may gaze upon the beauties and wonders of the landscape; unmindful, too often, of the not less wonderful creations that surround his path and are crushed beneath his feet. The way-side flower, the springing leaf, the tuft of moss, the blade of grass, or tiniest insect reveals, under the microscope, colors that contest in brilliancy and beauty with the rainbow and sunset, and forms of more subtle grace and delicate tracery than sculptors have ever chiselled or artist's pencil can hope to rival. There are few things about which the public have a more erroneous impression than the use of the microscope. The popular notion that microscopy is one of those abstruse sciences, the acquisition of which requires years of study and patient practice, is an error, as it is a simple art, easily acquired. The microscope is merely an instrument of observation. It sharpens the eye, and peers into everything. No invention of man has a wider range of application in its uses. It should be the companion not only of the scientific, but it might, with profit, be found in every counting-room, work shop and household. As an instrument of education it has no equal, and no school room should be without it. From the fact that the microscope has been so extensively used by scientific men, let no one suppose that it is for the exclusive use of gentlemen. The ladies, with their quick perceptions, refined organism, and delicacy of touch, are peculiarly adapted to manipulate both instrument and objects, and there is no reason why practice would not render them skillful microscopists. Besides the instruction and personal pleasure there would be derived

from the use of this instrument, ladies would find it to be an easy and agreeable way of entertaining their friends. They would also find many valuable hints in the delicate tracery of minute organisms, visible only under the microscope, which would suggest beautiful designs for their embroidery and fancy work, and its skillful management by them might with propriety be regarded as a refined accomplishment. As a teacher of theology this brazen tube has no rival. No doctor of divinity, however learned and eloquent, can so successfully urge the fallacy and utter absurdity of atheism, and route with shame and confusion the advocates of infidelity. For it reveals in every atom of the universe that "that the hand that made us is divine." So "he that hath eyes to see let him see," and in the beautiful lines of Young so appropriately placed on the programme of the evening by our efficient Secretary :

"Think naught a trifle, though it small appear;
Small sands the mountain, moments make the year;
And trifles life."

Proceedings of Societies.

REPORT OF DISCUSSIONS OF THE MISSISSIPPI VALLEY DENTAL ASSOCIATION, HELD MARCH 3, 1869.

[Continued from page 293.]

Fourth Subject—Operative Dentistry.

Dr. H. A. SMITH: I would suggest that large V shaped spaces that are so frequently made between the molars and bicuspid's should be discarded, as they are always a source of annoyance to the patient.

• Dr. McCLELLAND: May not Dr. Smith's suggestion, if followed very closely, lead us to retain their friable edges and walls, that will be insufficient to sustain good fillings. Such thin borders and walls will invariably, sooner or later, be destroyed, and thus the object of filling be thwarted. Always make cutting enough to secure good, firm borders, and then fill and finish to them completely. Always make a very thorough examination; take sufficient time to investigate fully, and proceed under all the light attainable.

Dr. McCULLUM: Some time ago a case was presented to me, in which a man, by running against a bar of iron, broke off about one third of a central incisor tooth, and split the remaining portion of the crown and root from side to side, almost its entire length. I extracted the pieces. Could anything have been done to retain this root and make it comfortable and useful?

Dr. H. A. SMITH: I had a case some years ago, in which a root was split by a pivot which attached an artificial crown. I made a small gold band, and put it tightly on the end of the root, so that the two pieces were held firmly together,

then replaced the crown as before, with the pivot. It stood firmly, and was valuable for several years.

Dr. SEDGWICK: Dr. McCullum did right, in my estimation, in the management of his case. There is, perhaps, less disposition now than some years ago to perform extra and difficult operations upon the teeth. Such cases are often unsatisfactory, and when so, the influence is bad. I had a case not long since in which a central incisor was broken off almost to the pulp chamber. I merely dressed it smooth and polished it, and I have no doubt it will remain so without inconvenience.

In filling proximal cavities I always make free space; and of such a form that the teeth will not come in contact again. In favorable cases I make contour fillings, but use great caution in the matter, in all cases.

Dr. A. BERRY: Deficiency in examination is a very common fault, and one from which much trouble arises. Every point in every case should pass the most searching examination.

Dr. A. M. MOORE: In filling, I use cylinders to a great extent. For forming cylinders or blocks I take, for instance, a half sheet of No. 6 foil, roll it diagonally on a No. 10 wire, then flatten the roll by passing it between the thumb and finger, then roll this strip squarely on a small broach until the cylinder is of the required size, and this will be regulated by the size of the cavity to be filled. In filling with them, the first two cylinders are placed in against the lateral walls, and then the third one fits firmly between them, and thus keying them in their position; then introduce the subsequent cylinders, observing the same principle all the way through until the cavity is full. The last gold introduced is a strip of adhesive foil. I always anneal the cylinders just before introducing them.

Dr. CUSHING: I advocate the large spaces between the teeth, and filling only flush with the lateral walls. I think this method will save the teeth more certainly than when a

small space only is made, and thin walls left, and the form of the tooth restored as is too often attempted.

J. TAFT: I think, as has already been expressed, that imperfect examination is one of the great faults of our profession. This examination should embrace far more than is ordinarily taken into account. All the conditions and circumstances, both those of good, and those of adverse influence should be noted. Very particular attention should be given to the conditions of the teeth, both of an original and accidental kind. The structure of the dentine, and the conformation of the teeth should receive very especial attention; all pits, fissures, and indentations should be very closely examined, also any spots that may appear in the enamel, and the proximal surfaces of all the teeth especially at or near the termination of the enamel. There is a very great variety in the minute structure of dentine. This we should carefully study.

In reference to details in operating I will refer to but one, viz: separation for filling proximal cavities. Large V shaped spaces should not, as a rule, be made between any of the teeth for filling. Separation sufficient for the operation is space enough after the filling is complete, to enable the patient to keep the parts thoroughly cleansed. Always have patients fully impressed with the importance of this matter. Examine carefully all fillings that may be in the teeth, and when defects are found they should at once be remedied; defective fillings are too often quietly passed over by many in our profession, and valuable teeth lost. In manipulating gold for filling it should not be touched with the fingers, but should be handled with pliers and napkins.

Dr. J. A. McCLELLAND: The fees of the Dentist should be regulated by the time devoted to the patient, and hence a charge should be made for examination. Our time is often largely drawn upon for examinations and advice, and it should always be paid for.

Dr. KEELY: I use the file in separating teeth just enough

to secure good borders to the cavity, and for additional separation use the wedge. I exercise great care in preparing and forming the conical portion of an approximal cavity. When the cavity extends to the surface of the crown, or near it, I cut through into the cavity of decay, which gives free access into the decay; in a cavity thus formed the best facility is afforded for anchorage.

Dr. H. A. SMITH: A free opening into the natural fissures, upon the crown of the tooth, in such cases, as referred to by Dr. Keely, is very important, to give strength of attachment to filling.



HUDSON RIVER ASSOCIATION OF DENTAL SURGEONS.

The regular annual meeting of this Association took place Wednesday, May 12th, in Odd Fellows' Hall, Liberty street, Poughkeepsie. It is composed of Dentists residing in the towns on and adjacent to the Hudson River. It is one of the largest and most important Dental Societies in this State, numbering nearly one hundred members. At the morning session but little business was done except to listen to the retiring President's (Dr. Fuller) annual address, in which he reviewed the progress the profession had made from its infancy to its present standing.

The afternoon session was devoted to the election of officers for the ensuing year and discussing the regular subject selected at the last meeting, viz.: "Treatment of Exposed Nerves."

Dr. Houghton and Dr. Straw read very able essays on the subject, and received the thanks of the Association. The subject was thoroughly discussed, and afforded much information to the Dentists present.

In the evening the subject of Mechanical Dentistry came up for discussion and was participated in by nearly all the

members present. The rubber work and Folsom's Patent was pretty well discussed and their weak points thoroughly ventilated.

Dr. Houghton suggested that the Association publish a Dental Journal for the benefit of the public. The matter was referred to a committee of three, consisting of Drs. Fuller, Straw and Royce, to report at the next meeting.

The following are the names of the officers elected :

President, Dr. L. S. Straw, Newburg ; 1st Vice President, Dr. T. C. Royce, Middletown ; 2d Vice President, Dr. W. B. Van Vleeck, Hudson ; Recording Secretary, Dr. T. W. DuBois, Poughkeepsie ; Corresponding Secretary, Dr. Chas. L. Houghton, Poughkeepsie ; Treasurer, Dr. Chas. F. Allan, Newburgh ; Executive Committee, Dr. J. H. Mann, Poughkeepsie, Dr. H. Smith, Hudson, Dr. H. M. Fressell, Kingston, Dr. W. E. Birdsall, Kingston, Dr. J. Shelden, Hudson.

Drs. Houghton, Birdsall, Allen, Du Bois and Van Duser were elected delegates to represent the Society at the American Dental Association, at Saratoga, in August.

CORRECTION.

MR. EDITOR.—In the March number of the DENTAL REGISTER, page 136, is the following, viz : “ In the arrangement of continuous gum teeth, any variation or arrangement that may be desired is attainable, which is not true of any other mode except ‘ Rose Pearl.’ ” This exception though perhaps true as far as the experience of the writer goes, should have included the mineral plate and teeth combined, which certainly possess superior advantages in this respect, as now manufactured under Dunn's improved method. Permit me to ask a correction of this, as in your judgment may be most proper.

Respectfully Yours,

G. W. DUNN.

Selections.

FATAL CASE OF TETANUS RESULTING FROM THE REMOVAL OF TEN TEETH FROM THE UPPER JAW WHILE UNDER THE INFLUENCE OF NITROUS OXIDE GAS—By H. K. STEELE, M. D., Dayton, Ohio.—John E. P——, aged 19, of strong constitution, robust and in full health, on the 1st of March last, while under the influence of nitrous oxide gas, administered by a Dentist, had ten of the upper teeth removed for the purpose of having a full artificial set inserted.

He felt some of the pain of the operation, but was well able to endure it and recovered apparently from its effects, and continued at his occupation, that of farming. On the 7th of March a twitching of the lower lid of the right eye, with a tendency in it to “draw down,” was observed by himself and friends. On the 8th he applied to the Dentist for relief, who made an external application of chloroform, deeming that sufficient. The left eye, however, became similarly affected, and other symptoms were gradually manifested until the 14th, at which time I first saw him (the distance from the city, 7 miles, being probably a reason why I was not sooner called.) There was then inability to separate the jaws more than three-quarters of an inch, a spastic contraction of the masseter. There was retraction of the angles of the mouth, and an occasional clonic spasm of the muscles of the abdomen.

Under the influence of a cathartic, with full doses of belladonna and bromide of potassium and ice-bags to the spine; two or three hours sleep was obtained that night, without, however, relaxation of the jaws, or entire subsidence of the abdominal spasm. On the morning of the 15th there was a perceptible exaggeration of the symptoms, the spasms of the abdominal muscles at times being very painful, deglutition performed with some difficulty; a drop of water falling on the chin or running down the neck producing the spasms in their full force.

Chloroform by inhalation moderated the pain and gave temporary comfort. Atropia was substituted for the bella-

donna and cannabis indica for the potass. bromide with morphine to be given at night.

March 16 — Had slept two hours during the night after taking the morphine; but a continuance of it did not maintain relief. This morning the disease is aggravated. He can not remain in bed, and occasionally has to be raised to a standing position, the spasms affecting all the muscles of the body, that of the extensors predominating.

From this time onward the disease increased in severity. The thoracic muscles, those controlling respiration being more affected than the others. There was at no time opisthotonos or emprosthotonos, but the body was powerfully extended to a straight position. He was not able to remain in bed during the last two days, and it was only whilst there was relaxation of the spasms that he could sit in a chair, the rest of the time he was held on his feet and required the windows and doors to be kept open, which, in the very inclement weather, was, of course, an aggravation to his disease and precluded all hopes of affording him relief. He died on the 19th, almost in a standing position, having just sunk down exhausted by the violence of a spasm. The treatment may be summed up as follows :

Ice-bags to spine; morphine; chloroform by inhalation; cannabis indica; potass brom; belladonna; atropia; extract callabar bean by hypodermic injection $\frac{1}{3}$ grain in solution and 1 grain per ore.

The remedies affording the most relief are in the order which they are named.

Chloroform for the last two days affected the respiration dangerously. The hypodermic application of calabar bean was not in the least beneficial.

Dr. John Davis, of Dayton, saw the case with me the last three days.



BROMIDE OF POTASSIUM FOR THE TROUBLES OF TEETHING.
By A. A. Hoehling, M. D., Sur. U. S. Navy.—The gratifying results which followed the use of the bromide of potassium in the only three cases of difficult dentition which have come under my care lately, must be my excuse for trespassing upon your valuable space. An additional reason for my communication, after such a limited experience, is that my return to

naval duty renders it improbable that I shall myself have an early opportunity of fully testing the great efficacy which I believe this remedy to possess.

The first case was that of an infant aged 11 months, which had been brought up by hand. Its stomach had always been very irritable, and its nutrition was poor. Some three weeks before I saw the child, severe symptoms set in from teething; the gums had been lanced, and the child was nourished with great difficulty. It had been given paregoric and quinine injections, but without benefit. When I saw it there was little hope in my mind, for there were marked head symptoms, the cough so often met with in these cases, and debility. The stomach rejected much of the food which was given. I was convinced that the opiate was contraindicated on account of the brain symptoms, and tried hyoscyamus for a day or two. This did not answer, and I concluded to make use of the bromide. Doses of one grain every six hours were given, and immediately the child obtained rest; it did not roll its head about so much, and slept well. After a somewhat prolonged convalescence, during which the gums were freely lanced by the family physician, the child recovered. The previous condition of its stomach had probably much to do with its tedious convalescence.—The second case was in a child two years of age; he had a cough, and was somewhat listless; found him taking syrup ipecac. The gum over his lower molars was highly inflamed and puffy. Gave potassii bromidi gr. j. in a teaspoonful of aqua cinnamomi every four hours. In two days the child was well enough to dispense with farther attendance.—The third case was also a child two years of age, in which the molars were giving trouble. The child had an occasional chill, loss of appetite, bright red and swollen cheeks, profuse salivation. Gave the bromide, gr. j. ter die, and *immediate* relief was procured. His parents were then directed to give a dose of the medicine only when they should perceive that the child was in pain. When I last saw him he was not laboring under any symptoms indicative of difficult dentition.

In cases like the above we must relieve the pain, and all will go well; from my small experience I consider lancing the gums as a temporary expedient, and one which retards the appearance of the tooth. I believe that much of the irritation proceeds from the alveolar process itself, and is but moderately relieved by the hæmorrhage from an incision

into the gum; the mere pressure upon the *gum* I do not regard as of the first importance. When the gum is lanced, it should be by two oblique incisions, if over a molar, cross cuts at right angles being useless, as the points of the crown are not set free. Opium is undoubtedly injurious in these cases, by increasing the tendency to brain congestion which already exists. We have then the bromide of potassium which tranquilizes the nervous system, relieves pain, and procures sleep; nature reinforced by such powerful aids soon accomplishes the rest for we have to do with a natural process, which requires but little help from us, if that little be well directed. The cough attendant upon difficult teething is undoubtedly well known to experienced practitioners, but yet it will do no harm to ask young beginners always to examine the gums in children with a cough, during the period of dentition, for it is not uncommon to see a child dosed with expectorants when attention to the gums would at once procure relief.

U. S. S. New Hampshire, Norfolk, Va.



INSANITY CURED BY THE REMOVAL OF CARIOUS TEETH.*—By W. T. Perry, M. D., of Maury Co., Tenn.—In compliance with promise and inclination, I submit for your disposal such facts as I have in reference to the following case, which came under my professional care and observation a few months previous to the recovery of the patient.

Mrs. B., aged 35, of nervous sanguine temperament and good physical strength and form, has been married twice, but has never borne children, and is now living with her surviving husband who resided in an adjoining state at the time of the first occurrence of insanity with his wife. From him I learned that her general health previous to attack had ordi-

* For this interesting case we are indebted to Dr. J. R. Ralston, of Hopeville, P. O., Tenn., for whom it was described by Dr. Perry. Dr. Ralston writes as follows:

"Dr. Gorgas:—All the parties mentioned in this article are well known to myself. I have known them all my life, with the exception of Dr. Perry, whom I have known for several years. He is a pious and truthful man. If you think best you can publish Dr. Perry's letter in the *American Journal of Dental Science*. The circumstances as stated are well known to every person in this county."

J. R. RALSTON.

narily been good, with the exception of occasional slight attacks of menorrhagia. She has also suffered more or less with indigestion, which at times became troublesome in its effects, being followed by colic, neuralgic affections and occasional afflictive spells of odontalgia, the result, probably, of decaying teeth.

In her general mental and moral characteristics, she was a gentle, kind, religious lady of good social qualities, pleasant and affable, and much loved and esteemed by her acquaintances, but, how changed the scene, how altered the mental and moral characteristics of this amiable lady when "reason was dethroned," and the beauty and symmecriy of a well regulated mental and moral constitution was spoiled by this grave mysterious affection. This disease first made its appearance in the form of slight mental aberrations, evinced by her lavish kindness in giving away her clothing and other property to the amount of nearly all she had. This was soon succeeded by an exaltation of the cerebral functions with increased perversion amounting to *raving mania*, which became so persistent and violent as to render seclusion and confinement necessary. She was accordingly taken to an *asylum for the insane* for treatment, at which place she remained for nearly two years, realizing no decided improvement or change in her mental lesion.

Her case being considered by her husband and friends as confirmed and unpromising of favorable results, she was removed to this community, and kept in close confinement on account of paroxysmal boisterous, destructive disposition. It was under these latter circumstances that I learned she was afflicted with sore and swelling gums, and at times suffered much with neuralgia involving the teeth, face and contiguous parts. Observing that she had quite a number of decayed teeth and unremoved roots of teeth, I suggested their removal by extraction as a means of alleviating her sufferings and possibly mitigating her mental disease. This was accordingly done by removing a portion at a time at intervals of a week or more (just as we could prevail upon our patient to submit), which was soon followed by decided and marked improvement, both with reference to sufferings and mental disease, and finally with perfect and complete recovery.

She now attends in person to her household and domestic affairs, and for the past six months, up to this writing, has remained free from insanity.

I consider the case one of recovery after having been continuously insane for three years, and that the result of recovery was effected by the removal of carious and defective teeth, as no other remedy of a special character was used at the time.

AN IMPROVED SYRINGE-PIPE FOR HYPODERMIC INJECTION.—By Dr. Thomas Buzzard, Assistant-Physician to the National Hospital for the Epileptic and Paralysed.—Those of us who are most favorably disposed towards the hypodermic injection of drugs are yet obliged to allow that our patients not unfrequently object very strongly to the pain occasioned by the introduction of the syringe-tube. And we sometimes find it as hard to convince such persons that they are not being hurt as the shoemaker did to prove to Lord Foppington that his shoe was not too tight. “Your lordship,” he said, “may please to feel what you think fit; but that shoe does not hurt you. I think I understand my trade!” A syringe-tube which I have lately had made will, I hope, do something to extend the hypodermic method by the facility and the comparative painlessness of its introduction. The ordinary syringe-tube, it will be remembered, is of gold or silver gilt, and is tubular to the very end, which is sharpened as well as the somewhat soft material allows. Steel tubes of the same form are sometimes employed, but they quickly corrode and get choked. It occurred to me that it was quite unnecessary for the syringe-pipe to be tubular *throughout*, and that a gold tube might with advantage be fitted with a *solid* steel spear-point of the best form for penetrating the skin. At my request, Messrs. Meyer and Meltzer, of Great Portland-street, have attached a triangular steel prism to the ordinary gold tube, and thus constructed an instrument which pierces the skin as easily as the “glover’s” needle, which is preferred to all others, by many surgeons, and which the termination of the tube closely resembles. The advantages of incorrodibility in its tubular portion, and sharpness of point are thus combined. The point is wiped by simply passing it between the thumb and finger.—*Lancel*, March 20, 1869, p 397.

INFLUENCE OF TOBACCO UPON THE CIRCULATORY SYSTEM. Dr. Decaisne, in the course of investigation on the influence of tobacco on the circulation, has been struck with the large number of boys, aged from nine to fifteen years, who smoke, and has been led to inquire into the connection of this habit with impairment of the general health. He has observed 33 boys, aged from nine to fifteen, who smoke more or less. Of these, distinct symptoms were present in 27. In 22 there were various disorders of the circulation—*bruit de souffle* in the neck, palpitation, disorders of digestion, slowness of intellect, and a more or less marked taste for strong drinks. In three the pulse was intermittent. In eight there was found on examination more or less diminution of the red corpuscles; in twelve there was rather frequent epistaxis; ten had disturbed sleep, and four had slight ulcerations of the mucous membrane of the mouth, which disappeared on ceasing the use of tobacco for some days. In children who were well nourished the disorder was, in general, less marked. As to the ages, eight of the boys were from 9 to 12 years old; 19, 12 to 15. The duration of the habit of smoking was, in 11, from six months to a year, and in 15 more than two years. Ordinary treatment of anæmia in general produced no effect as long as the smoking was continued; but when this was desisted from health was soon perfectly restored, if there was no organic disease.

AMAUROSIS CAUSED BY CROWDING OF TEETH.—Mr. Hancock (*Lancet*) reports the following peculiar case; a boy, aged eleven, whose sight had been previously unimpaired, found upon waking one morning that his sight was entirely lost. He was admitted to the Charing-Cross Hospital about a month afterwards, when it was found that his teeth were much crowded and wedged together; the jaws, in fact, not being large enough for them. Two permanent and four milk molar teeth were extracted, and the boy could distinguish light from darkness on the same evening; on the following morning he could make out objects. Eleven days after he was discharged cured, the only treatment beyond the removal of the teeth being two doses of aperient medicine.

SPECTRUM LINES.—At a late meeting of the American Institute, Professor E. C. Pickering, of the Massachusetts Institute of Technology, employed the following method to illustrate his paper on Spectrum Analysis. A sheet of black lace, one and a half feet broad, and three feet high, was suspended as a screen, and upon it was thrown a continuous spectrum from a magnesium light, arranged in the manner first developed for the electric light by Prof. Cook, of Cambridge, except that only one bisulphide of carbon prism was used. The spectrum covered the entire lace screen, the curvature of its lines being corrected by an opposite curvature of the opening through which the light passed. Upon this black lace were attached a number of white paper strips, so arranged as to occupy the places of the bright lines in seven different spectra, such as those of sodium, potassium, rubidium, cæsium, etc. These being illuminated by the variegated light of the continuous and broad spectrum, received and reflected each the color corresponding to its position, and therefore, (their adjustment being accurate.) that which actually belonged to the band which it represented. The light falling between these paper bands was not, of course, reflected, and the appearance, therefore, was in each case (as an actual spectrum), of bright-colored lines on a dark ground. When, however, as in the case of potassium, the nebula of Orion, etc., a faint, continuous spectrum is in fact combined with that of the bright lines, this also was represented by attaching, in the right places, bands of white lace, which reflected enough of the colored light to produce a hazy spectrum, admirably imitating that of the substances or bodies in question.—*Jour. Franklin Institute.*

THE NERVES OF THE HEART.—Dr. Cyon has been just awarded, by the Imperial Academy of Sciences, the annual premium for discoveries in experimental physiology, for the discovery of two nerves going from the spinal marrow to the heart, and belonging properly to that organ. His paper is entitled “Researches on the Innervation of the Heart by the Spinal Marrow,” and, besides, a description of the newly-discovered nerves, relates demonstrations of new phenomena, produced by these nerves in the functions of the important

organ to which they belong. The first nerve, which he calls the special cardiac accelerator nerve, emerges from the spinal column with the third branch of the cervical ganglion, and, when excited on the living animal, the heart's pulsations are increased. The same effect is produced whether the excitation is made on the root of the nerve, or on the spinal marrow near the nerve. The other nerve discovered by M. Cyon, uniting the heart to the spinal marrow, is not a motor but a sensitive nerve. By the medium of this nerve a reflex action is produced, starting from the heart, and influencing the capillary circulation in all the organs of the body. The most important facts in the physiology and pathology of the heart may flow from this discovery. M. Claude Bernard is now at work at the new nerves, and some prominent indications have been established, or nearly so, relative to disease of the heart.—*Paris Correspondent of the Times.*

FOOD IN THE REIGN OF HENRY THE SEVENTH.—From Midsummer to Michaelmas was the only time they indulged in fresh meat, and the instructions say: "My lord has on his table, for breakfast, at seven in the morning, a quart of beer and wine, two pieces of salt fish, six red herrings, four white ones, and on flesh days, half a chine of beef or mutton boiled." At dinner, men ranking as knights had a table cloth, which was washed once a month; they had no napkins, and the fingers were extensively used in feeding.

PURIFICATION OF TANNIN.—M. Heintz (*Zeitschrift für Chemie*), purifies commercial tannic acid by dissolving it in water, and agitating it rapidly with ether that has been well purified. The decanted solution is then filtered, the ether evaporated, and the tannin obtained free from odor or evaporation.

Editorial.

TOOTH POWDERS, ETC.

S. S. WHITE, ever watchful of the interests of the Dental profession, and neglecting nothing that may minister to its welfare, has, within the last year, made quite an addition to its prophylactic and therapeutic preparations. He has, with the best counsel and advisement, and with the best selection of material, prepared three varieties of Tooth Powder, Nos. 1, 2 and 3, which, from a very thorough test, as well as from a knowledge of the ingredients, we regard as most excellent; we have seen nothing better for general use. It is made of materials superior to those that could be obtained by members of the profession usually, and is far better prepared than it could be in small quantities, and with less perfect facilities. It is furnished to the profession in any quantity from one pound upward.

He has also a dentifrice in the form of a paste. This form makes no special change in quality, but is more a matter of convenience than anything else. This is furnished in mass, or put up in boxes as may be desired.

The profession are now able to obtain these preparations reliable and uniform.

T.

RESIGNATION—APPOINTMENT.

PROF. J. A. WATLING, who so efficiently and acceptably filled the chair of Clinical Dentistry in the Ohio College of Dental Surgery during the last year, has, by various circumstances, been compelled to resign that position. This announcement will cause regret to every friend of the institution, who knows Prof. W.'s ability. But we are gratified to state that the chair has been

filled with so good and acceptable a member of the profession as Dr. A. M. MOOR, of Lafayette, Ind. Dr. MOOR is favorably known to the whole profession of this county, and especially in the West.

We consider the College very fortunate in securing Dr. M. as one of its teachers. T.



SENSITIVE DENTINE IN A PULPLESS TOOTH.

YESTERDAY I was annoyed with "sensitive dentine," while having a tooth prepared for filling. The pulp has been dead since March. Passing broaches into the canals caused no pain; but every cut in the crown gave the same sensation as if the pulp had been alive, with more than the normal sensitiveness of the dentine. I account for the sensation in the same way that we explain a sense of tingling or pain in the fingers after the hand has been amputated. In "toothedge," or toothache in artificial teeth we have an analogous condition. In an adjacent pulpless tooth this sensation was not felt. W.



CORRECTION.

THE notice copied into the REGISTER of June, on page 259, of the burning of the Anatomical Museum of the St. Louis Medical College, is, as we are informed by the Dean of that institution, a mistake. He says, "the building burned was the O'Fallon Dispensary and the Museum of the St. Louis Academy of Sciences." We copied the notice from an exchange, presuming it was correct. T.

THE DENTAL REGISTER.

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[No. 9.]

Original Communications.

CLEANING THE TEETH.

BY J. P. HOLMES, D.D.S.

THIS subject has been but slightly noticed by the journals and by many Dentists. It may seem of little importance, yet, is very essential in many respects. The first point to be noticed is the cleanliness of the mouth which is often tainted very strongly from unclean teeth. Second, when unclean, the appearance of the teeth is much marred, which detracts from the appearance of the person. Third, when the teeth are not cleansed, tartar will accumulate, covering the teeth in some instances, all over quite thick, causing absorption of the gums, alveolar process, and finally the loss of the teeth. It is evident, then, that the teeth are lost from not being cleansed, thus showing the importance of this operation.

Thousands of teeth are yearly sacrificed, for the simple reason that they are not cleansed. It is therefore the duty, and to the interest of every honest and good Dentist to endeavor to save as many teeth as possible. In order to accomplish this object, care should be taken to fill the teeth

as perfectly as possible, then finish completely, giving the "grand finale" by thoroughly cleaning the teeth of all foreign substances, stains, &c. When this is done, and instructions given to the patient to keep them in this condition, then is the operation complete, and not without.

It is an established fact that the teeth decay about fillings, and the latter come out from neglect of the brush. That would not be so if the proper attention had been given, showing to the Dentist that it is duty and to his interest to have the teeth of his patients kept clean, in order that his work may be permanent and remain in the mouth.

The work done in a mouth is shown to a greater advantage, and the patient is more than pleased at the metamorphosis, and exclaims, how nicely my mouth feels, and how white you have made my teeth. This operation is always appreciated by the patient, and I have noticed the pleasant surprise depicted on the patients face when, on handing them the mirror, they perceive the sudden change from dark or black stained teeth to white, clean teeth, and the effect produced in the general appearance of the person.

It is no easy or very nice operation to clean a set of teeth thoroughly, it requires time, energy, patience and hard work to do justice to the patient. My mode of cleaning the teeth is as follows :

1st: Remove all tartar by use of scalers, using, if there is much tartar, and breath bad, phenol sodique, diluted two-thirds water, throwing it on gums and teeth with syringe used for this purpose. This disinfects the breath, making it more pleasant for the patient, and operator, also, checks the bleeding produced by scalers coming in contact with the gums, in search of tartar. After removing all the tartar, next proceed to clean the stain from the teeth, by use of very fine pumice stone, used on very soft white pine wood, made in different shapes, etc. Then select a tooth for a model and clean it as as nicely as possible. Then proceed to next, etc., until all are clean like model. After this, go over all the

teeth with tooth powder and soap, giving them a genteel brushing with the patients brush. This will clean the teeth thoroughly, and make them look white and nice. Rinse the mouth out and apply on a pledget of cotton, to the gums where tartar has been, a solution of creasote and iodine, equal parts, diluted with alcohol one half. This will make gums heal nicely. Where there is a good deal of tartar, gums diseased bleed from slight touch. It requires three to five sittings to remove all the tartar and cure the gums. In cases of this kind, remove all tartar possible first sitting, applying freely over all the gums the above solution, discharging patient giving an astringent mouth wash to be used three or four times daily for two days. Then to return to have balance of tartar removed, continuing thus until the mouth is well. By pursuing this course nearly any case can be cured in a short time. As soon as gums are entirely cured clean as above.

I have been very successful in this way, winning many warm friends, and much work, by cleansing the teeth and saving them from destruction, when they had been given up for lost. The patient is very apt to take special care of the teeth after this, and will have them examined frequently and if they require attention will have it given them. Teeth that are often given up by patients as being too far gone to be saved, on examination are often found covered all over with tartar, gums diseased, breath offensive, etc., but teeth pretty good. Perhaps a few decayed, one or two may be beyond the skill of the Dentist. After a close examination you say to your patient, all your teeth except one or two can be saved by a little skill and energy. Patient consents to have them treated and filled. After being informed of the value of natural over artificial teeth, then proceed to finish; first, cleansing the mouth of all foreign substances, so as to be able to operate on the teeth, in filling, etc., and to the patients surprise you have brought order out of chaos. They find that they have a good, nice, white set of natural

teeth, which have, perhaps, cost but little more than a set of artificial teeth.

Thus, by cleansing the teeth, you have saved the patient the loss of their natural teeth, and at the same time feel that you have done a good deed. A good price should be charged, and patients who appreciate their teeth, and have any appreciation of the good done, will be willing to compensate handsomely for the work, and be grateful in addition.



THE HANDS.

EDITORS DENTAL REGISTER:—I noticed a communication in the June number of the REGISTER, headed "The Hands," by C. H. EVANS, in which he speaks of the difficulty of keeping the hands in a proper condition to operate when we have to handle blackened flasks just from the vulcanizer. He goes on and gives the best remedy for its removal. I admit that it does it admirably, but there is an old adage that says "an ounce of prevention is worth a pound of cure." Here it is, how to prevent blackening of the hands.

Prepare a strong solution of lime of sufficient quantity to cover the flasks well in a vessel suitable for the purpose. Take the flasks from the vulcanizer with a pair of tongs, put them in the solution, allow them to remain say fifteen minutes, stirring a few times. Remove them with the tongs and place them in clean water when they may be washed off with a brush. After all the plaster has been washed off the flasks they should be replaced in the solution, and allowed to remain half an hour or more. As this will prevent them from rusting, and their consequent early destruction. The black coating on the flasks is a compound formed of the sulphuric acid of the plaster, with the iron of the flasks, together with some of the volatilized rubber. The sulphuric acid is set free by the high degree of heat used in vulcanizing. Also,

it is likely the sulphur in the rubber plays some part. When the flasks are thrown in the lime solution, the sulphuric acid leaves the iron and unites with the lime, while the iron is precipitated as an inert black powder. Other strong alkalies might be used that have an affinity for sulphuric acid. The reason for using the tongs to handle the flasks is apparent, as the lime solution would injure the hands worse than the black and the remedies for its removal.

M. McCARTY.

ARTICULATION.

BY W. H. THRIFT, D.D.S.

I have ventured to imagine, I may contribute a short article to the REGISTER, that may not be entirely without interest to at least some of your readers.

The manner in which I obtain an articulation in full sets of teeth, is as follows: Over the plaster impressions mold temporary plates made of gutta percha, when cool, trim to suit case, using care that the plates do not interfere with the action of any muscles brought in contact with them, while in the mouth. Now select the teeth to be used in the case, and place the plates in the mouth, with incisor and molar sections temporarily fastened to them. Change the teeth if necessary in getting right articulation; take a strip of wax, warm it first over a spirit lamp, and fasten the two plates together by pressing the wax between incisor and molar sections, after giving the wax time to harden, remove the plates from the mouth together and plaster them on the articulator, not using plaster casts. After the teeth have been ground and arranged to suit, try them in the mouth, and if not right make the necessary changes before discharging patient.

I claim the following advantages over the old practice viz: time is saved, and it does away with the danger of marring impressions while grinding and arranging the teeth. It has been my experience that a more accurate articulation is obtained by this method than any other with which I am familiar.

A Madison, Wisconsin, dispatch to last evening's *Chicago Republican* says: "A sad accident occurred here this morning. One of Whitney's 'Vulcanizers'—a little steam boiler of copper, holding about a quart, and one-twentieth of an inch thick, used for vulcanizing rubber plates for false teeth—exploded in the office of Dr. Nelson Chittenden, instantly killing his office boy, Fred. Forsman, aged about eight years. The lower part of his face was torn away, his collar bone torn loose, and his lungs exposed. The boiler exploded with terrific force, sending two pieces of copper through a door connecting with another room."

[*Cin. Chronicle*, Aug. 4, 1869.]

THE Second Annual Meeting of the Missouri Valley Dental Society was held in the office of Dr. E. I. Woodbury, Council Bluffs, Iowa, July 13th and 14th.

E. I. Woodbury was elected President, C. Humas, of Nebraska City, Vice-President, and J. F. Sanborn, Tudor, Iowa, Secretary and Treasurer.

Dr. E. S. Williams, the retiring President, delivered an annual address on the Duties of the Profession.

The Society meets semi-annually on the 2d Tuesday and Wednesday in January and July.

PECULIAR DENTAL PRACTICE.

Dr. Livingston's report of the Batoka tribes of South-Africa, makes mention of the curious custom they have of knocking out the upper front teeth at the age of puberty. He says no young woman of this tribe thinks herself accomplished until she has got rid of the upper incisors. When questioned respecting the origin of this practice, the Batoka reply that their object is to be like oxen.

Some of the Makololo give a more facetious explanation of the custom, they say, that the wife of a chief having, in a quarrel, bitten her husband, he, in revenge, ordered her front teeth to be knocked out, and all the men in his tribe followed his example.

W. H. THRIFT, D.D.S.



Proceedings of Societies.

OFFICIAL PROCEEDINGS OF THE DENTAL CONVENTION, BEGINNING JULY 28TH, IN ATLANTA, GEORGIA.

At the urgent solicitation of several leading members of the Dental profession, Dr. W. H. Morgan, of Nashville, Tenn., issued a call for a Convention at Atlanta, Ga., on the 28th of July, 1869.

In response to this call the following Dentists assembled at the City Hall on the morning of that day, viz:

Georgia.—H. Marshall, A. C. Ford, J. D. Thomas, Albert Hape, E. B. Marshall, C. D'Alvigny, Atlanta; H. A. Lowrance, Athens; R. A. McDonald, Griffin; J. P. H. Brown, S. G. Holland, Augusta; T. J. Jones, Sparta; H. T. Henry, Covington; J. A. Tigner, Fort Valley; E. W. L'Engle, F. Y. Clark, Savannah; T. W. Hentz, J. Fogle, Columbus; W. H. Burr, Madison; T. J. Crowe, Macon; E. M. Allen, Marietta; B. B. Alford, LaGrange; W. T. Cole, Newnan.

Alabama.—S. Rambeau, Montgomery; H. A. McDaniel, C. A. Jordan, Huntsville; H. B. Boyd, Troy; J. G. McAudey, Selma.

Tennessee.—W. H. Cook, Cleveland; John Fouché, Knoxville; W. T. Arrington, Memphis; W. H. Morgan, Nashville.

Kentucky.—W. G. Redman, Louisville.

Arkansas.—L. Augspath, Helena.

South-Carolina.—W. Reynolds, Columbia; J. M. Day, Aiken.

Louisiana.—J. S. Knapp, J. R. Walker; J. G. Angell, G. J. Friedericks, W. S. Chandler, New Orleans.

Maryland.—F. J. S. Gorgas, Baltimore.

Professor J. S. Knapp, was called to the Chair, supported by Dr. W. H. Morgan, as Vice-President. Prof. J. F. S. Gorgas, of Baltimore, and Prof. J. G. Angell, of New Orleans, Secretaries.

The Chairman, after stating the objects of the meeting, appointed Drs. Morgan, Gorgas, W. T. Arrington, Chandler, and Jones, a committee to draft a constitution, by-laws, and code of ethics.

During the absence of the Committee, a general expression of views was given relative to the objects of the meeting.

The Committee reported at 11 A. M. The constitution, including by-laws and code of ethics, after being read, was with a few alterations approved and adopted article by article, and as a whole.

At the evening session the following officers were elected:

President—Dr. W. T. Arrington, of Memphis; 1st Vice-President—Dr. Reynolds, of South Carolina; 2d Vice-President—Dr. Augspath, of Arkansas; 3d Vice-President—Dr. McCauley, of Alabama; Corresponding Secretary—Prof. Gorgas, of Maryland; Recording Secretary—Prof. Angell, of Louisiana; Treasurer—Dr. Redman, of Kentucky; Executive Committee—Drs. Morgan, of Tennessee, Knapp, Walker and Chandler, of Louisiana, and Hape, of Georgia.

The retiring Chairman of the Convention, and the President elect of the Association, each in turn, made interesting speeches to the Association on Dental Education and the benefits to be derived from such societies.

The following committees were then appointed by the President:

On Membership.—Drs. J. S. Knapp, La.; T. J. Jones, Ga.; G. J. Friedericks, La.

On Publication.—Drs. W. S. Chandler, La.; J. R. Walker, La.; J. G. Angell, La.

Dental Education.—Drs. F. J. S. Gorgas, Md.; J. P. H. Brown, Ga.; W. M. Reynolds, S. C.

Physiology and Surgery.—Drs. F. Y. Clark, Ga.; S. Rambeau, Ala.; J. Fouché, Tenn.

Dental Chemistry.—Drs. J. G. McAuley, Ala.; W. H. Burr, Ga.; E. M. Allen, Ga.

Dental Therapeutics.—Drs. F. Y. Clark, Ga.; G. J. Friedericks, La.; H. Marshall, Ga.

Operative Dentistry.—Drs. W. H. Morgan, Tenn.; J. Fouché, Tenn.; H. A. Lowrance, Ga.

Mechanical Dentistry.—Drs. W. G. Redman, Ky.; E. W. L'Engle, Ga.; S. G. Holland, Ga.

Dental Literature.—Drs. J. P. H. Brown, Ga.; H. A. McDaniel, Ala.; T. J. Jones, Ga.

Voluntary Essays.—Drs. J. R. Walker, La.; J. M. Day, S. C.; W. S. Chandler, La.

Histology and Microscopy.—Drs. W. T. Arrington, Tenn.; T. J. Jones, Ga.; John G. Angell, La.

Various interesting letters were read from distinguished members of the Dental profession, breathing a genial and progressive spirit, and expressing most ardent sympathy with the movement, which were placed on file.

Prof. J. S. Knapp, read an exceedingly able paper, written by Prof. A. F. McLain, of New Orleans, on Prophylaxis, or Prevention of Dental Decay—which gave rise to an animated discussion on the same subject.

Dr. J. P. H. Brown read an interesting essay on the progress of Dental science, which, with the paper of Dr. McLain, was referred to the Publication Committee.

Professor Gorgas, of Baltimore, read a paper by Professor S. P. Cutler, of Holly Springs, Miss., entitled Microscopy of the Teeth, for which the thanks of the Association were awarded.

Dr. F. Y. Clark, of Savannah, exhibited a set of artificial teeth, which were worn by General Oglethorpe, and which were curious in respect to their antique style of workmanship.

By invitation, after adjournment of the morning session,

the members of the Association visited the 'Medical College.

At the hour of three, the Association partook of a sumptuous dinner, provided for them by the Council and citizens of Atlanta, at the National Hotel, at which general good feeling prevailed, and many speeches and toasts were given.

At the evening session of the second day, the time was spent almost exclusively in discussions on the treatment of teeth already devitalized, those which have given rise to alveolar abscess and those which have not.

A portion of the members left for their homes on the evening of the second day, but the session of the third and last day was attended by over thirty members, who resumed the discussion of the previous day with much spirit and interest, and extended it so as to embrace especially the subject of preservation of the vitality of exposed pulps.

It is seldom in any Dental Assembly that a subject of this kind is so generally participated in, or so much interest elicited. This may be accounted for by the fact, that its importance is now more generally understood, as well as by the fact that the very able President, Dr. W. T. Arrington, would immediately bring any member to order who wandered from the subject.

A vote of thanks was offered to Mr. Saml. Hape, of the Dental Depot in Atlanta, for providing arrangements for the Association, and for courtesies extended.

A vote of thanks to the City Council of Atlanta, and also to the Railroad companies, and to the Press of Atlanta, for their aid and kind courtesies, were given.

Amid much enthusiasm and high hopes for the future good to be accomplished by the Association, they adjourned to meet in New Orleans, on the 2nd Wednesday in April, 1870.

After the adjournment, committees were formed for the purpose of organizing State Dental Societies in the States of Alabama and Georgia.

Selections.

ON THE STRUCTURE OF TWO FORMS OF TOOTH TUMOR.—
S. J. A. Salter, M.B., F.R.S.—In December, 1867, M. P. Broca read a paper before the Academy of Sciences of Paris, under the title “Recherches sur un nouveau groupe de Tumeurs désigné sous le nom d’Odontomes,” in which he described some of the hard excrescences which hypertrophy and abnormal growth of the tooth tissues produce. None of the abnormalities described by M. Broca were new, though the arrangement of them under the one head—tooth-tumors—had not been before adopted by authors. Moreover, M. Broca’s list was very incomplete, as no reference to either of the forms of tooth-tumor I am about to describe appears in his paper. Still, I think it must be conceded that to arrange all the tumors formed by the increased and perverted growth of the tissues of the teeth, under one head, is rational and expedient, and that the term “Odontome” is a convenient and legitimate expression.

The two Odontomes I am about to describe differ very materially in practical importance, while they are both of considerable physiological interest. Both are congenital. The one is extremely rare, but from its size is likely, when it occurs, to entail the necessity of serious surgical interference: the other is so minute and apparently so trivial, that the term ‘tumor’ might perhaps seem scarcely applicable to it; still, the expression may be fairly used; and the list of tooth-tumors would be incomplete without a description of this the smallest example:

1.—A Tooth Tumor consisting of an Hypertrophied, Aberrant Fang.

I believe that this heading best expresses the nature of the growth I am about to describe.

It is a specimen of disease of very great interest: it is extremely rare, and the only instances, which I believe to be similar, have been misunderstood.

The tooth with the tumor attached to it constitutes prepa-

ration 1022 of the Museum of the Royal College of Surgeons of England, and is believed to have been in the collection of John Hunter.

The Museum Committee of the College have very kindly allowed me to conduct these investigations.

As regards the rarity of this monstrous growth there are, I believe, three examples known in existence—neither more nor less—and all have, I venture to think, been misinterpreted. I feel that I ought to make this statement with great deference, considering the authorities who have described the specimens in question: at the same time I have no doubt about it in my own mind. The examples to which I have alluded are—

1st. One described by M. Forget.¹ It consisted of a large tumor, about the size of a bantam's egg, attached to the posterior surface of a lower molar tooth, adherent to the neck and a considerable portion of the fang. This specimen was taken from the mouth of a Frenchman, 40 years of age, who came to Paris to have the tumor removed on account of the annoyance it occasioned. The tumor occupied the left side of the lower jaw, expanding its sides, especially the outer, and disfiguring the face.

M. Maisonneuve, who attended the patient, determined to extract the tooth as a preliminary step to removing the tumor: the tooth, however, and the tumor came away together.

A section of the specimen through its entire length shows a complete continuity of tissue between the two, and the part in the illustration where the tumor and tooth are united is singularly like that seen in the specimen in the Museum of the College of Surgeons. The tumor is said by Forget to be composed wholly of osseous tissue.

2nd. The second example is recorded by Mr. Tomes in a paper read by him before the Odontological Society of Great Britain, April 6th, 1863.² The specimen was presented to the Odontological Society by Mr. Hare of Limerick. "The

1. 'Des Anomalies Dentaires, et de leur influence sur la Production des Maladies des Os Maxillaires,' par M. Forget, Paris, 1859. Obs. III, p. 27, pl. ii. figs. 1 and 2.

2. Description of a "Remarkable case of Exostosis," by J. Tomes, Esq., F.R.S., in 'Transactions of the Odontological Society of Great Britain,' vol. iii, p. 335. London, 1863.

tooth, a molar, was taken from the upper jaw of a countryman, 41 years old, who for some years previously had suffered severe pain in the jaw. The cheek was perforated by a canal through which matter constantly poured. After the removal of the tooth the pain in the jaw ceased, and the wound in the cheek healed." Connected with the fangs of the tooth is a large lobulated mass, four or five times as big as the tooth itself. "The number and relations of the roots of the tooth are obscured by the mass of cementum by which they are surrounded. The mass itself may be roughly described as built up of three coalescing flattened lobes, not very distinctly marked: one immediately investing the roots of the tooth, and composed of dense cementum; a second, continuous with the first, marked by abrasions produced by superficial absorption of the tissue, and presenting an appearance of less density than the preceding lobe. The third and terminal division is double the size of either of the preceding portions of the tumor." Though Mr. Tomes speaks of this tumor as an exostosis—it being composed wholly of *crusta petrosa*—no examination of its tissues appears to have been made with the microscope. The opinion is merely an inference.

3rd. The third specimen, which I now describe, is that existing in the Museum of the College of Surgeons. The only published reference to it with which I am acquainted occurs in Mr. Heath's admirable work on 'Diseases and Injuries of the Jaws.'¹ Mr. Heath, perceiving the similarity and the apparent identity of this tumor with those figured and described by Forget and Tomes, includes it in the same category, and describes it as a large exostosis. "In the Museum of the College of Surgeons is a specimen of large exostosis, due to hypertrophy of cementum."

This preparation consists of a rather small molar tooth from the posterior fang and neck of which passes off a large lobulated tumor, flattened from without inwards, more than twice the size of the tooth itself. The continuity of the tissue of the two is complete: the tumor is adherent to the tooth for its entire thickness from side to side. The form of

¹ 'Injuries and Diseases of the Jaw,' the Jacksonian Prize Essay of the Royal College of Surgeons of England, 1867, by Christopher Heath, Esq. F.R.C.S., London, 1868.

this adventitious growth and its relation to the tooth will be better understood by the accompanying figure than by any lengthened description. The surface of the large distal lobe is very white and polished: the structural continuity of the tumor and the tooth at their junction is very conspicuous.

FIG. 1.



Molar tooth with hypertrophied aberrant fang.

Desirous of ascertaining the histological character of this tumor, I made a lengthwise section of it as nearly in its axis as possible. It was not strictly axial, as that would have involved the tooth, injury to which I was anxious to avoid: still the section was sufficiently near the centre to disclose the nature of the growth and its relation to the tooth to which it was attached.

In grinding down the specimen, a small portion of the thin layer broke away from the narrow extremity: this does not, however, interfere with the demonstration of its structure, as I had already proved by repeated examinations with low magnifying powers, what were the histological elements constituting the section before it was sufficiently thin for permanent mounting.

The woodcut (Fig. 2) shows with perfect fidelity what is the structure of this tumor. The former is especially intended to display the relation of the parts of the growth to the tooth to which it is attached; and, though somewhat diagrammatic, is nevertheless strictly true.

A section of the tumor in the direction indicated in this figure (Fig. 2) shows the outer layer to be composed of a

FIG. 2.



Diagram of tooth and fang-tumor, showing the method of section and the general arrangement of the constituent tissues.

coat of crusta petrosa or cementum : it is even, compact, and of the usual character seen on tooth-fangs. Within this is a layer of true dentine : this does not constitute the entire circle of the section, but for about two-thirds of its circumference separates the external cemental layer from the *nucleus* of the growth, as it may well be styled. It is the two-thirds towards the attachment of the tumor to the tooth. For the remaining third there is no limitary band of dentine separating the nucleus from the crusta petrosa ; but the line of demarcation between the two is perfectly distinct.

Upon examining the tissues of this section with high microscopic powers, the nature, the meaning, and the relation of

these several histological elements are quite clear, as is their source of developmental production.

The outer layer is one of ordinary *crusta petrosa*, such as is seen on healthy tooth-fangs: it is laminated, non-vascular, and with the usual scattering of *lacunæ*, parallel to the axis of the *laminæ*.

The layer of the dentine is equally conspicuous and unmistakable; and, as is usual, the tubes have a general direction at right angles to the pulp-cavity and to the external surface of the growth of which they form part.

The nucleus of this odontome, its structure as displayed by high magnifying powers, and the inference as to its nature and source, constitute the most important points of interest in the specimen: they involve its meaning—the question what it really is.

1st. The *structure* of the nucleus. It is highly vascular, and the arrangement of the vessels is like that of the tooth-pulp; they branch and unite, and diverge in every conceivable direction; and their average diameter is about that which is seen in an uncalcified dentinal pulp. As regards the minute elements of structure, *lacunæ* largely prevail, and frequently occupy the whole field of the microscope: they are, however, somewhat peculiar, being large, without axial definition, and surrounded by crowds of canaliculi, looking like patches of moss. From this extreme form there is every conceivable variety of shape, passing by degrees to distinct and unmistakable dentinal tubes. Again, in other parts of the nucleus, isolated patches of true dentine are to be found, and some of these remote from the dentinal band and close to the *crusta petrosa* which bounds the bulbous end of the tumor. Moreover, in many parts there are masses of those calcification globules characteristic of dentine. In fact, the nucleus is composed of a confused mass of bone-structure and dentine-structure, arranged around and separating an elaborate vascular network of the same character as that of a dentinal pulp.

2nd. As to what may be inferred regarding the nature and source of this structure. It must be observed that the nucleus is *embraced within* a belt of true and unmistakable dentine:—that for two-thirds of its limit it is thus separated from true tooth-bone: that it is essentially different from the *crusta petrosa* hard by. It must be remembered further that whereas bone *lacunæ* may be found in a calcified dentinal

pulp, dentine is never found in an exostosis—is never produced by the periodontal membrane.

In a paper which I published in the 'Guy's Hospital Reports' (1855), "On the intrinsic calcification of the tooth pulp," I showed that the dentine pulp, when it had undergone calcific impregnation of its whole structure, would often yield a mixture of bone tissue and dentine; and I figured one specimen, that of a temporary molar long retained in the mouth, and whose pulp had become calcified, in which the axis of the tooth did present this mixture of dentine and bone. Now, it would be impossible to distinguish the calcified pulp of this tooth from portions of the nucleus of the tumor I am now describing if they were placed under microscopes side by side.

I have no hesitation in saying that this nucleus was produced by the intrinsic calcification of a large dentinal pulp, of the same size and form as the nucleus; that the belt of dentine was the primary and normal development of that pulp; and that this hypertrophied and abnormal pulp, ceasing to contract and prolong centripetally the dentinal tubes, underwent a confused bone and ivory genesis, retaining its then vascular condition. It is scarcely necessary to refute the idea of this being an exostosis. Dental exostosis is entirely external, superficial to the ivory of the tooth: it is an extraneous growth deposited outside the dentinal system and in no way affecting it. A section of a tooth fang, however, incrustated with exostosis, has its dentinal element unaltered.

Exostosis is a secondary affection occurring in after life. This expanded cone of dentine necessarily involved an original development of the same form—as dentine grows from without inwards; while *crusta petrosa* forms from within outwards.

I have expressed my belief that both the specimens described by Forget and Tomes are of the same nature as this specimen and that they are not exostoses, as stated; and I have come to this conclusion for many reasons. Their similarity—there is a close resemblance between the specimen I have described and the other two instances; it is especially like M. Forget's. In the latter case, too, the growth sprouts from the neck of the tooth principally, where exostoses do not occur. Again, there is nothing to lead to the idea that these are exostoses; there are no intermediate forms, nothing between the incrustations and small nodular tumors, which

really are exostoses, and these large calcified masses. If these were exostoses, as stated, we should expect to find smaller ones of the same nature and more frequently: but that is not so.

M. Forget states that the structure of his specimen was proved by the microscope to be exclusively osseous tissue. I can not, however, help feeling a doubt whether the whole area of the cut specimen was scrutinised with exhaustive care. The accidental failure to examine a small space just within the outer coat of the tumor would lead to a total misapprehension of its nature. In the specimen I examined I obtained sections from the nucleus which were osseous nearly altogether, or with such faint indications of the dentinal element as easily to elude the observation of a microscopist, not anticipating their presence. As regards Mr. Tomes's specimen his statement that it is an exostosis amounts to nothing, as he did not examine its tissues with the microscope. I very much wish that both Forget's specimen and the one described by Mr. Tomes could be very carefully examined histologically and in all their parts.

There is one point in reference to Forget's and Tomes's specimens of interest and of anatomical value: they both display hollows or cavities, and, in the latter, the bulbous extremity of the tumor was little more than a hollow calcified cyst. This is never seen in true exostosis; but it is quite consistent with the idea of an hypertrophied, expanded, tooth-fang, whose pulp had not undergone calcification; it would be the equivalent of the specimen I have described, in which the tooth had been removed before the nucleus had passed from a soft pulp to a calcified mass.



CASE OF TETANUS TREATED BY BROMIDE OF POTASSIUM.—
By Robert Brown, Esq., Carlisle.—[The patient was a boy 12 years of age. About the end of September suppuration commenced around the root of the thumb nail, and terminated in the death and removal of the nail. On October 4th he fell asleep on the grass and awoke stiff and chilly. There was slight stiffness of the neck next day, and on October 8th there was rigidity of the spine and stiffness of the jaws.]

When admitted, two men carried him, perfectly rigid and

bent, by the shoulders and lower extremities, from the cab to the ward.

State on admission.—He complains of stiffness in the back, neck and jaws; of pain in the neck, especially along the course of the sterno-mastoid muscles; and of great thirst. The sterno-mastoids, together with the muscles of the back and abdominal recti, are very tense. He can move his jaws apart about $\frac{1}{4}$ of an inch. During a paroxysm of pain and spasm, one of which occurred shortly after admission, he cried loudly, rested on his occiput and heels, and his countenance distinctly presented the "risus sardonius." Pulse 112, irregular. Skin hot and dry. Bowels inactive. Ordered injection of warm water. To have milk, beef tea, arrow-root. Potass. bromid. gg. xx. every second hour.

13th October, vesp. Last night the bowels were freely moved; he slept little, but was quiet and easy. Has taken liquid nourishment freely. Paroxysms have been frequent and painful during the night; to-day they have occurred very often since 5 p. m. The boy perspires freely; can move his jaws apart fully $\frac{1}{4}$ of an inch. Pulse irregular, and so feeble that the beats can not be accurately counted. Urine normal in quantity and quality. Potass bromid. gr. xx. every hour.

15th, vesp. Patient during the early part of last two nights has suffered from severe paroxysms, occurring on an average four in the hour, and accompanied with a sense of choking, but after 1 a. m. he has become easier, and has slept a good deal. Since 5 p. m. to-day, paroxysms have occurred on an average 3 to 6 during the hour, though before that time he had been free from them, and had slept for three hours, being awakened however, to take his medicine, &c. Pulse 78, stronger, but still irregular. He perspires freely. Bowels acted after an injection for first time since night of admission.

16th. Patient slept well during the night till 3 a. m., when a paroxysm seized him, and almost threw him out of bed—such was its severity; it caused intense pain, and a wound of the tongue, by the sudden snapping together of his jaws. This morning he has taken milk and arrow root for his breakfast: lies quite easy, and perfectly free from pain, often dosing in sleep, with his mouth open fully an inch. He had to-day fifteen paroxysms in twelve hours. Tongue thickly coated with white fur. Breath foetid. Bowels inactive.

17th. Last night at 1.30 a. m., the house-surgeon was summoned by the nurse, and found the boy convulsed in a violent paroxysm. His arms were violently contracted, the sardonic grin well marked; opisthotonos extreme; breathing hurried and labored; blood and saliva streaming from the mouth; tongue bitten in two places; face livid. The paroxysm lasted for three minutes, and subsequently he lay for half-an-hour exhausted and prostrate. This morning he is easy, and sleeps hour after hour. Ordered injection. Hydrarg. subchlor., gr. ii.; pulv. rhei. gr. vi. M. et. ft. pulv.

18th. Patient had two violent and a few slight paroxysms during the night. Bowels acted twice. Pulse 84—89, weak. Ordered sherry $\frac{3}{4}$ ss every fourth hour.

Vesp. During the day has had twenty-four paroxysms in twelve hours.

21st. Patient has passed easy nights, and slept well since last report. Yesterday he slept nearly the whole day, being awakened every hour to take medicine. During the night there occurred fifteen paroxysms in four hours. To-day he thinks the stiffness in the neck is disappearing. Potass. brom. every second hour. Sherry $\frac{3}{4}$ x daily.

24th, vesp. The boy has progressed rapidly and favorably since the 21st. Has slept a great deal, and perspired freely, odor of sweat being foetid. To-day he has been restless, and has suffered from three paroxysms in six hours, though he was free from them in the morning. Pulse 86, regular. Ordered an injection of warm water, which brought away a large, dark, foetid stool.

26th. Progress very satisfactory till 3 a. m. (this morning), when he became restless, and suffered from paroxysms frequently, on an average three an hour. This morning he looks haggard, and, during the spasmodic attacks, the sardonic grin, the opisthotonos, with the clenching of the jaws, and contractions of the arms, and pain in the neck are as well marked as on the 18th and 19th, when he took the paroxysms most frequently. Pulse feeble and irregular. Ordered whisky $\frac{3}{4}$ ii. R. Potass. bromid. gr. xx. every hour. Ordered sherry, $\frac{3}{4}$ vi.

27th. Has become much easier, suffers less pain during a spasm, and sleeps hour after hour, save when he has to take his stimulants, fluid nutriment, or medicine which he does with avidity.

2 p. m. The house-surgeon was summoned by the boy's screams, and found him almost out of bed in a violent paroxysm—the nurse had left the ward for a moment. Ordered an enema.

1st November. Since the last paroxysm recorded, the boy has only had four, which occurred on the 29th. Improvement rapid. He sleeps well, and eats voraciously. Pulse 96, weak.

Vesp. To-day he has had three paroxysms, one of which took place after an ineffectual attempt to sit up in bed.

6th. Has had no paroxysm since last report, when he began to take the bromide every second hour. Pulse 90. Improves daily. He still wears the facial grin, and complains of pain along the course of the sterno-mastoids, especially when he moves his head. Bowels acted freely. R. Potass. brom. gr. xx. every third hour.

10th. The boy improves rapidly, and without relapse. For the last two days he has been out of bed, and sitting on a chair; if he attempts to walk he stumps along on his heels. Has still a broad grin, and stiffness in back and legs. His articulation is imperfect, owing to the rigid muscles. To discontinue whisky. Diet common; eggs ii. Sherry $\frac{3}{4}$ vi. Potass. bromid. gr. xx. ter in die.

25th. In a very satisfactory state.

2nd December. Discharged cured.—*Edinburgh Medical Journal*, May 1869, p. 993.



ON THE THERAPEUTIC ACTION OF ACONITE AND ITS PREPARATIONS.—By Dr. Sidney Ringer, Prof. of Therapeutics at University College, and Physician to University College Hospital.—Of all the drugs we possess there are certainly none more valuable than aconite. Its virtues by most persons are only beginning to be appreciated, but it is not difficult to foresee that in a short time it will be most extensively employed in the diseases immediately to be noticed.

As external applications, the liniment or ointment is used to relieve pain. They appear to possess power over pain of different kinds. In the neuralgias of the brow or face these applications are sometimes of the greatest use, and often relieve, either permanently or temporarily, the distressing pain of these complaints. But while in many instances their

effects are immediate and permanent, yet it must be confessed that in the majority of cases the pain is unaffected. Neither can we, with our present knowledge, predict with any certainty the cases in which the application will be useful, or those in which it will fail. This much, however, is ascertained, that those neuralgias which depend on decayed teeth or diseased bone, or on tumors pressing on the nerves, are beyond the control of aconite. But these are not the only forms of neuralgia over which aconite can not prevail. No doubt in some instances the failure can be explained by the badness of the preparation; but even when this is excellent it is not uncommon for the pain to remain unabated after the application. As, however, no harm can possibly follow their employment, they should always be tried; and if unsuccessful, then resource can be had to other modes of treatment. If aconite succeeds at all, it will succeed at once; and hence, if no relief is speedily obtained, it is useless to continue its employment. The preparation should be sufficiently strong to produce decided numbness and tingling in the skin over which it is rubbed; and where of service, these sensations replace the pain, which does not return when the effects of the aconite have worn off.

The ointment and liniment should be applied with friction, which very greatly heightens their activity. Of the ointment, a piece the size of a pea or bean should be rubbed into the skin till it has disappeared. Care should be taken while using these powerful and poisonous applications that they are not rubbed into wounds or cracks of the skin, nor brought into contact with absorbent tissues, such as mucous membranes and the conjunctiva of the eye. Spinal irritation and intercostal neuralgia may in many instances be removed by aconite ointment, and sciatica sometimes yields to the same remedy. The former complaints are better treated by the belladonna preparations.

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It is on account of its power to control inflammation and subdue the accompanying fever that aconite is to be most esteemed. The power of this drug over inflammation is little less than marvellous. It can sometimes at once cut short the inflammation. It does not remove the products of inflammation when these are formed, but by controlling the disease, it prevents the formation of these, and so saves the

tissues from further injury. It is, therefore, in the early stage of inflammation that the good effects of this plant are most conspicuous; still, although the disease may have progressed to some extent, and have injured the organs by the formation of new and diseased products, while the inflammation is extending aconite does good. It is useful wherever there is acute inflammation of any tissues of the body. The good it accomplishes can be shown both by the amelioration of the symptoms, and, still better, by the changes it effects in the inflamed tissues when these are visible, as in pharyngitis, tonsillitis, &c.

As might be expected, the results of aconite are most apparent when the inflammation is not extensive, or not very severe, as in the catarrh of children, or in tonsillitis, or in acute sore-throat. In these comparatively mild diseases, especially if the aconite be given in the earliest stage of the inflammation, when the chill is still on the patient, the following consequences will very generally be witnessed:—In a few hours the skin, which before was dry, hot and burning, becomes comfortably moist; and in a little time longer, it is bathed in a profuse perspiration, which may be so great that drops of sweat run down the face and chest. With this appearance of sweat many of the distressing sensations—such as the restlessness, chilliness, or heat and dryness of the skin—are removed. At the same time the quickened pulse is much reduced in frequency, and in a period of twenty-four to forty-eight hours, it and the temperature have reached their natural state. It is rare that a quinsy or acute sore-throat, if caught at the commencement, can not be disposed of in twenty-four to forty-eight hours. The sweating may continue for a few days after the decline of the fever on slight provocations; but it then ceases.

The appearance of the inflamed part also exhibits, in a striking degree, the beneficial effects of the drug. Thus large livid, red, glazed, and dry tonsils may often in twenty-four hours have their appearance completely altered. If the medicine has been given before much lymph has been formed in these organs, in the time named the swelling and most of the redness will have disappeared; and the mucous membrane will have that look which proves the acute inflammation to have subsided—namely, it has become moist, and is bathed with mucus or pus. If just at this stage some strong astrin-

gent—such as glycerine of tannin—be applied, most of the remaining diseased appearance of the pain, if it continues, will be removed. Such are the visible effects of aconite on inflamed tonsils, &c.

DE-NICOTINIZED TOBACCO.—In the *Chicago Medical Journal* of February, is the following article by T. Williams, M. D., of Milwaukee :

It is not generally known that tannic acid de-nicotinizes tobacco. If the bowl of a pipe is filled about one-fourth full of tannin, filled up with tobacco and smoked, the aroma of the tobacco is almost entirely destroyed, and the smoker scarcely feels the effect of the tobacco on his nervous system. In this experiment the tannin powder does not take up all the vaporized nicotine (which is the intoxicating principle of tobacco, and tobacco smoke), as it passes through it. The smoke will at first be entirely free from all taste or smell of tobacco, but in a few moments it will have formed a passage through the tannin, through which it will pass so rapidly that all of its nicotine will not be absorbed.

The experiment is more striking if a bit of sponge is filled with a saturated solution of tannin, and placed in the bottom of the pipe. The smoke of the first two pipefuls of tobacco will pass out as vaporless and innocent as the smoke of a child's rattan or grape vine cigar, and as devoid of tobacco smell. But if several more pipefuls are smoked, the tannin having taken up all the nicotine it is capable of neutralizing, the smoke will begin to pass out with its natural taste and aroma. A sponge, after being used in this way, acquires a peculiar stale tobacco smoke odor. A common pipe may be used in this experiment, but with it the smoker is very liable to draw some of the tannin solution into his mouth, producing an unpleasant "green persimmon" puckering. The Turkish pipe, which is provided with a reservoir containing water, answers the purpose admirably. The place for water may be filled with a saturated solution of tannin; or what is better—as it prevents the unpleasant bubbling noise—a sponge saturated with the solution.

By changing the sponge often enough, a person may smoke as immoderately as he pleases without any injurious effects, and it is particularly recommended to ambitious young

gentlemen whom the weed in its natural condition "makes sick." I should also suppose that smoking tobacco steeped in a saturated solution of tannin, and dried, would be equally harmless, but have not tried this latter experiment. I am not sanguine, however, that mankind will avail themselves of the advantages of this discovery. It will be like the Frenchman's antidote to the intoxicating effects of alcoholic potations—it destroys the very effect for which the poison is used!

The North American Indians were wise, however, and availed themselves of this discovery hundreds of years ago. It is well known what inveterate smokers the Indians are, and still we never see any injurious effects of this habit upon them. This may be due in part to their vigorous constitutions and hardy nomadic life, but it is mainly due, I think to the form in which they use their tobacco. Until they learned the habit from the whites, they rarely or never used the pure leaf. Their "Killikinnick"—the agreeable aroma of which once inhaled in a wigwam or lumberman's cabin, can never be forgotten—is composed of equal parts of tobacco and the inside bark of a species of the *cornus coricea*. Sometimes the admixture of tobacco in it is not more than a fourth. This bark is astringent, and abounds in *tannin*, and therefore in a great measure neutralizes the effects of the tobacco. The fancy brands of smoking tobacco labeled "Killikinnick" sold by tobacconists in papers, it is needless to say, are pure tobacco, and have no real claim to the name. The Indian name for the particular species of swamp dog wood which they use for smoking is "Kinnikinnick," hence the name. As we learned the art of smoking from the American savages, it would be only showing proper respect to our tastes to take the weed as they do. They peel the inside bark of the shrub, dry it, pound it to a powder in their stone mortars, and then mix intimately with the crumbled tobacco.



TAKING IMPRESSIONS FOR PARTIAL SETS OF TEETH.—By C. S. Chittenden.—In inserting partial sets of teeth, I always wish to do so with pressure plates. Of course I am sometimes compelled to resort to clasps, as it is, from the circumstances of an occasional case, impossible to make a pressure plate adhere with sufficient force to be satisfactory

to myself or the patient. But, there need be but few such cases, if we could get a *perfect* impression of the parts. Usually, I am able to succeed with wax, but now and then a case is presented in which I find it necessary to adopt some other method of taking the impression, on account of the difficulty of removing the wax from the mouth, without changing the form of it. The following is the plan which I adopted some years ago, and which I have found to be the most successful, as well as the simplest method of any that I have tried. I first take an impression in wax and draw a cast from it. Then I take a piece of sheet lead and fit it to the cast as nearly as possible, by rubbing down with burnishers, something like a trial plate, leaving it a little higher on the edges than a plate which is to be worn, would bear to be. I use this lead pattern or trial plate, or whatever any one may choose to call it, for an impression cup, but as it would not be stiff enough to answer that purpose of itself I punch some small holes through the lead, and pour plaster of Paris over the whole of the lingual surface, letting it run through the small holes in the lead, so as to bind the plaster firmly to it, in the same way that mortar is bound to the lath on walls and ceilings. When the plaster has set I cut away all that will be in the way, and having prepared the plaster for the impression, I pour it into this made-up cup and putting it into the mouth I press it home in the usual way. I should say, however, that the plaster for the impression should be rather thin, so as to flow into all the spaces between the teeth. I allow it to set thoroughly before attempting to remove it, as it is less likely to break in doing so. Being far less thick and clumsy than the ordinary impression cup, almost any one can bear it in the mouth for ten or twelve minutes without much inconvenience, thus enabling me to take my own time in the removing of it from the mouth. In doing so, I first cut away, with a sharp pointed knife *all* the plaster from about the teeth, that I think will be likely to break away, and then, with some small instrument, very gently pry it away from the teeth, until it can be removed from the mouth without difficulty. From this impression I draw a cast and make the plate in the usual way, but of course, the teeth must be arranged in the *mouth*, as this is only an impression of the palate and lingual surfaces of the teeth.

[*Canada Dental Journal.*

KEEPING VOLATILE LIQUIDS.—Chemists and others know well the difficulty of keeping very volatile liquids. Bottles of ether, for example, are shipped for India, and when they arrive are found to be more than half empty. The chemist sometimes puts a bottle of benzole or bisulphide of carbon on his shelves, and when he next requires it he finds the bottle empty and dry. The remedy with exporters is a luting of melted sulphur, which is difficult to apply and hard to remove. A new cement, therefore, which is easily prepared and applied, and which is said to prevent the escape of the most volatile liquids, will be useful information to many. It is composed simply of very finely ground litharge and concentrated glycerin, and is merely painted around the cork or stopper. It quickly dries, and becomes extremely hard, but can be easily scraped off with a knife when it is necessary to open the bottle.

A TEST FOR GLYCERIN.—The increased use for glycerin in the arts of late has, of course, brought into the market an adulterated article. When sugar and dextrine were mixed in small proportions with glycerin it has hitherto been difficult to detect the adulteration, but is now easily done by the following method: To five drops of the glycerin to be tested add 100 to 120 drops of water, one drop of pure nitric acid, and three to four centigrammes of ammonium molybdate, and boil the mixture, and in less than two minutes it will assume a deep blue color if any sugar or dextrine is present.

AN IMPROVED BATTERY.—We have recorded so many improvements (as they are all called) in galvanic batteries, that the number and variety become bewildering. The last we meet with is that suggested by Bottger, who proposes to substitute metallic antimony for carbon. An amalgamated zinc plate is immersed in a strong solution common salt and sulphate of magnesia. The antimony, like the carbon, is placed in a porous pot, but the liquid used is dilute sulphuric acid. A combination of this arrangement is said to give a stronger and more lasting current than a cell of Daniel's battery.—*Mechanics' Magazine*.

FACIAL NEURALGIA.—SPASMODIC OR “EPILEPTIFORM.”—

There is a form of facial neuralgia, which, when it occurs, does so in persons past the prime of life. It is characterized by intense severity in its onset, which is also sudden. It is, to some extent, hereditary. Our best treatment consists in: 1. The use of counter-irritation of a peculiar kind. 2. Nutritive tonics. 3. Subcutaneous injection of morphia, or of atropia according to circumstances. The counter irritation must not be applied to the branches of the fifth nerve, but to those of the occipital nerve. A blister at the nape of the neck is often strikingly effective in gaining a short respite. The assiduous use of cod-liver oil, or of some fatty substitute for it, should be insisted on from the first, and is of the highest consequence. (Dr. F. E. Anstie, p. 62.)

CLEFT PALATE.—Instrument for facilitating the Operation of Staphytoraphy. — The desirability of performing the operation for cleft palate at an earlier age than has hitherto been done can not be denied. The author has invented an instrument by which the patient is rendered perfectly helpless, the tongue being depressed and the mouth held wide open. By this means, and by the aid of chloroform, the defective formation may be remedied early in life, before the indistinct and nazal habit of speaking becomes permanently acquired. The same instrument will be found useful in excision of the tonsils in unruly children; and in operations on the pharynx and interior of the mouth. (Mr. T. Smith, p. 159)

CESSATION OF THE REVISTA MEDICO QUIRURGICA Y DENTISTICA.—The proprietors of the *Revista Medico Quirurgica y Dentistica* announce the suspension of their journal. This is due solely to the political troubles now existing in the Spanish West Indies.

Publication will be resumed, it is hoped, in January, 1870.

Nearly every Medical Journal in the United States has exchanged with the *Revista*; and for this kindly recognition of their effort, the editors desire to express their thanks.

VOL. XXIII—28.

HARE LIP.—Cases of hare-lip ought to be operated upon the first month; nothing is gained by waiting. If this is not done the child fails to take sufficient food, and becomes emaciated and unfit for the operation. The best position for the operator is sitting, the head of the child being held between the knees, while the rest of the body is supported by an assistant. Use a narrow scalpel, with which transfix above and cut downwards in a curved direction, that when the two curved surfaces are brought together the full edge of the lip may be thrown sufficiently down. If the alveolar process is cleft and prominent it should now be snipt through at the spot between the lateral incisor tooth and the canine, and pushed back. Having done this the lip and all the surrounding parts, including the nose, must be separated from the deeper parts, so that the lip may hang loosely, without any tension. If this is not well done there will be failure in the union. The raw edges of the wound must now be adjusted, commencing the adaptation at the lowest part. The sutures and pins are generally removed too early. (Mr. H. Walton, p. 157.)

NEW OPERATION FOR.—The author describes a new operation for the remedy of this deformity. The peculiar object of this operation is the preservation of the natural curves of the lip. The upper lip may be divided into a central and two lateral portions, divided by curved lines running from the nostril to the margin of the lip. The fissures of hare-lip always correspond to this division, and the cicatrices should also do so. (Dr. M. H. Collis, p. 154.)



REPRODUCTION OF BONE FROM PERIOSTEUM IN RESECTION OF JOINTS.—Experiments made by M. Ollier, of Lyons, conclusively establish the power of periosteum to reproduce bone. These experiments are of great importance as bearing on resection of joints. (p. 132.)

When the elbow joint is excised, the bones only being removed, and the periosteum left entire, it is a most singular and startling fact that reproduction of the bone takes place, the form of the original bone being preserved. A case is related in which both the condyles of the humerus and the olecranon process were reproduced. There was a regular joint, surrounded by a capsule and containing hyaline cartilage. The details of the operation are described. (Mr. T. Holmes, p. 129.)

ARTIFICIAL RESPIRATION.—One of the convenient galvanic batteries now made by Stöhrer and others should always be at hand when chloroform is being administered, or at places where death by drowning is liable to occur, in order that a Faradaic current may be at once applied to the phrenic nerves where they pass over the scaleni muscles. There is no more effectual means of procuring artificial respiration than this. (Mr. Carter, p. 241.)

Pacini's Plan of Artificial Respiration.—The following plan of artificial respiration is that of Pacini, of Naples. Place the patient on his back on a table or bed, and let the operator have his abdomen against the head of the patient, and place his hands in the axillæ, on the dorsal aspect, and then pull the shoulders towards him with an upward movement at the same time. The shoulders should then be relaxed, then the former movement, and so on alternately. The air sometimes makes a loud noise when it passes the larynx. (Dr. E. P. Bain, p. 240.)

NEW MODE OF PRODUCING OXYGEN.—Messrs. Montmagnon and Delaire produce oxygen from the atmosphere by means of charcoal and water, or by saline solutions. They state that 100 litres of fresh charcoal, when exposed to atmospheric air, will absorb 925 litres of oxygen and only 705 litres nitrogen. If the charcoal so saturated with gas is then saturated with water there will be expelled 650 litres of nitrogen and only 350 litres of oxygen. Thus 575 litres of oxygen and only 45 litres of nitrogen are left in the charcoal. These gases they remove by means of an air pump, when the charcoal is again ready to absorb oxygen and nitrogen from the air. The oxygen thus obtained is pure enough for all ordinary purposes, but the cost of procuring it by this method has not yet been practically determined.

HYDROGENIUM.

BY ROBERT HUNT, F.R.S.

The attention of experimental philosophers has, for some time past, been gradually drawn to the phenomena presented by the operation of some obscure force, or forces, ever active in the molecular interstices of matter. Under a variety of terms they have been explaining, or rather endeavoring to explain, peculiar attractions manifested by the surfaces of bodies, and assuming different conditions, according to the peculiarities belonging to the surfaces under examination. The force known as capillary attraction—whether exhibited in tubes or between plates of glass—is tolerably familiar to all, and the mechanical power shown by the fibre-tubes of cotton will have been tested by almost every intelligent schoolboy. The absorption of water by a lump of sugar or of chalk, and the “sucking up” of water by a sponge, is so common, that few stop to ask by what power the phenomenon is brought about. We are now, however beginning to discover that, in these, apparently, simple things, we may observe the opening of a door, disclosing a way, which promises to lead us to a knowledge of nature’s most secret operations. The simple adhesion of water to a perfectly clean plate of glass, informs us, that a power resides on that surface; and, if we bring two such surfaces near together with a fluid between them, we see that the fluid is lifted against the gravitating influence of the whole Earth. In this we have hitherto detected a simple mechanical force only. Of late, however, M. E. Becquerel has informed us that this surface force has a power equal to the breaking up of strong chemical affinities. That, metallic solutions being employed, the metal is gradually separated from the solution and deposited in thin films upon the glass plates. In the fine fissures of green-stone rocks we often find films of native copper; and the films of gold in the cracks of the gold-bearing quartz are well known to the miner. These are doubtless due to the force resident on the surfaces of the rocks, in the same way as it is shown in action in M. E. Becquerel’s experiment.

The influence of surface is discovered again in the ordinary process of filtration. It was shown by Dr. Hofmann and Mr. Witt, in their report on the water supply in Lon-

don, that the water which passed through the filter beds of the water companies' reservoirs, was robbed of some portion of the salts held in solution. The late Dr. Normandy, when engaged in his experiments on the production of drinkable water from the sea, discovered that sea water was rendered free from salt, or nearly so, by being filtered through about thirty feet of siliceous sand or powdered glass. The removal of organic coloring matter from water, by passing through a few feet of earth, is another example of the same power in action. These phenomena are shown yet more strikingly, by charcoal. Hence its employment for purifying water, and its use for removing the annoyances arising from putrefactive fermentation. Experiments have shown that charcoal possesses the power, by virtue of its porosity, of condensing within itself many times its own volume of certain gases and vapors. This property is not peculiar to charcoal—all porous bodies exhibit it to a greater or less degree—but the power is strikingly manifested by this substance. It may be incidentally mentioned here, that Dr. Stenhouse has, by connecting a piece of charcoal with a voltaic battery, and plunging it into a solution of platinum, succeeded in coating all its interstitial spaces with a film of that metal. This is, in itself, another example of the surface action to which it is desired to draw attention. This platinized charcoal possesses all the powers of ordinary charcoal greatly exalted. It acts, indeed, as spongy platinum does, and not only condenses the gases escaping from putrid matter, but combines them with oxygen and slowly burns them away.

An instantaneous light lamp was common enough some years since. Hydrogen gas was produced, by a simple arrangement, by the oxidation of zinc in water, and stored in a bottle for use. When, by turning a stop-cock, a jet of hydrogen gas was projected upon a piece of spongy platinum, it was rapidly condensed and, at the same time, forced into combination with oxygen. The result of this was the production of heat sufficient to ignite the jet of hydrogen gas. Faraday showed how directly this depended on surface action. Taking a piece of perfectly clean platinum, he plunged it into a mixture of oxygen and hydrogen gases. These united to form water on the surface of the metal, and by the heat evolved, in this process, the metal became red hot.

It may appear too much to say that the solution of sugar or of salt in water is an analogous process to those which have been thus hastily and popularly described. A little attentive consideration will, however, carry conviction to the mind, that in the solution of a lump of sugar in water, we see the diffusion of it, through the interstitial spaces of the fluid, up to the point of saturation; when the solution-power ceases, and that it is a case of a similar nature to the solution of sulphuretted hydrogen in charcoal. Mr. Graham has, long since, beautifully shown the power of this surface force in water. Any one can repeat a simple experiment, and greatly interested will he be in watching the result. If to a solution of sulphate of copper some liquid ammonia is added, we produce that beautiful purple solution which marks the shop of a druggist. Fill a small bottle with this solution and placing a little bit of window-glass over the mouth of the bottle, lower it, by means of a string, into a confectioner's jar full of water. When it rests steadily at the bottom of the jar, carefully, with a rod, strike off the glass cover from the bottle. The water and the ammonia-sulphate of copper are in contact, but they do not mix. Gradually it will be observed that the purple solution loses color, becoming a pale blue. The chemical combination has been overthrown—the ammonia has left the sulphate of copper and diffused itself through the water. In a similar manner, yet more powerful chemical combinations may be broken up.

We are acquainted with other phenomena, in which modified conditions of the force which we have been considering are strikingly shown. Exosmose and endosmose—or, as Mr. Graham terms it, Osmose Force—exhibits phenomena of a peculiar character, yet a cautious examination appears to lead to the conclusion that there is little essential difference between it and the forms of force which have been described. A porous tile, a wall of clay, a piece of animal membrane, dividing two fluids, differing but slightly in their character—say, for example, sugar and water—shall be on one side of the partition, and water only on the other. Porosity immediately begins its work: the solid substance in solution (this mode of expression can scarcely be avoided, but the substance in solution does not exist in the solid state) passes through in one direction while a little of the purer fluid passes through in the other direction. Flowing in and flowing out goes on until all the sugar, or other substance, leaves

its own cell and settles itself in the other. By this process numerous chemical decompositions can be effected, as in the cases already cited. In each and all of these phenomena, it is tolerably certain that we are dealing with an obscure, but a most energetic force, possessing more resemblance to gravitation than any other known power, but distinguished from it by broad lines of difference. In gravitation we discover a power acting, irresistibly, amongst the particles of matter, drawing all to a mathematical center, while, at the same time, we detect an influence—is it diffusive?—which binds mass to mass in space and regulates the motions of worlds. In the surface force under consideration we find a power acting in perfect independence of gravitation—often in opposition to it; but it is a caved giant, whose power is limited to the cave in which it dwells.

Pursuing a series of investigations, all of them being remarkable examples of experimental induction, and which may be regarded as originating in the more simple phenomena referred to, Mr. Graham was led to the discovery that certain metals not only absorbed some of the gases, and especially Hydrogen, but that they retained those metals, or as the discoverer termed it "*occluded*"* them. When iron or platinum or palladium in a state of tolerable purity—whether in the form of sponge, or aggregated by hammering—is heated, and allowed to cool slowly and completely in a hydrogen atmosphere, those metals are found to have absorbed many times their volume of the gas, and to hold it in a state of "*occlusion*" for any length of time; until, indeed, it is dispelled by heat. It was the discovery of this fact, and the examination of meteoric iron, which led to the remarkable discovery that these meteoric masses must have passed through—and indeed cooled in—an atmosphere of hydrogen gas. Mr. Graham advanced from this point to a knowledge of a new method of charging metals with hydrogen at low temperatures. When a plate of zinc is placed in dilute sulphuric acid, hydrogen gas is liberated from the water by the oxidation of the metal, and it is evolved from the surface of the zinc, but no hydrogen is occluded. Mr. Graham remarks, "a negative result was to be expected from

* *Occlusion* is a good old English word, signifying to 'shut up,' which had fallen out of use, until Mr. Graham restored it as a scientific term.

the crystalline structure of zinc." We are disposed to ask why crystalline structure should interfere with this power of retention? If, however, a thin plate of palladium is immersed in the same diluted acid, and brought into metallic contact with the zinc, the hydrogen is transferred to its surface, and the gas is largely absorbed. The charge taken up in an hour by a palladium plate, rather thick, at 12° amounted to 173 times its volume.

"The absorption of hydrogen was still more obvious when the palladium plate was constituted the negative electrode, in acidulated water, to a Bunsen battery of six cells. The evolution of oxygen gas at the positive electrode continuing copious, the effervescence at the negative electrode was entirely suspended for the first twenty seconds, in consequence of the hydrogen being occluded by the palladium. The final absorption amounted to 200 volumes."

The hydrogen enters the palladium and no doubt pervades the whole mass of the metal, but it exhibits no disposition to leave the metal, and escape into a vacuum, at the temperature of its absorption. Pieces of palladium charged with hydrogen have been sealed up in exhausted glass tubes. After two months the glass has been broken under mercury, and the vacuum found perfect, no hydrogen having vaporised in the cold, but on the application of heat 333 volumes of gas were evolved from the metal. Another experiment was of a very striking character. A hollow palladium cylinder was made the negative electrode in an acid fluid, while the closed cavity of the cylinder was kept exhausted by means of a Sprengel aspirator. No hydrogen whatever passed into the vacuous cavity in several hours, although the gas was no doubt abundantly absorbed by the outer surface of the cylinder, and pervaded the metal throughout.

It appears that when hydrogen is absorbed by the metal palladium, the volatility of the gas may be entirely suppressed; and hydrogen may be largely present in metals without exhibiting any sensible tension at low temperatures. "*Occluded hydrogen is certainly no longer a gas, whatever may be thought of its physical conditions.*"

It has often been maintained on chemical grounds that hydrogen gas—the lightest body in nature—is the vapor of a highly volatile metal. Sir Humphry Davy and others have drawn attention, from time to time, to certain conditions which appeared to connect hydrogen with the metals, and

now the results obtained by the Master of the Mint appear to confirm those views. Mr. Graham remarks: "The idea forces itself upon the mind that palladium, with its occluded hydrogen, is simply an alloy of this volatile metal, in which the volatility of the one element is restrained by its union with the other, and which owes its metallic aspect equally to both constituents." The following brief statements of the conditions of palladium—and of palladium charged with hydrogen—will elucidate this point.

It should be stated, in the first place, that palladium in the state of thin films, as thrown down from a solution of the chloride by a voltaic battery, when heated to 100° in hydrogen, and allowed to cool slowly for an hour in the same gas, was found to occlude 982.14 volumes of the hydrogen. This is the largest absorption of hydrogen which has been observed, and certainly it is not a little remarkable to find a dense body, such as the metal palladium is, absorbing and retaining nearly one thousand times its volume of so light a body as hydrogen is. The density of palladium when charged with eight or nine hundred times its volume of hydrogen gas is perceptibly lowered. A palladium wire before exposure measured 609.144 millims (23.982 inches). This wire received a charge of hydrogen amounting to 936 times its volume, and increased in length 9.779 millims (or 0.385 inches); it measured, when charged, 618.923 millims. The density of the charged wire is reduced from 12.3 to 11.79. The expulsion of hydrogen from the wire however caused, is attended with an extraordinary contraction of the latter. On expelling the hydrogen by a moderate heat, the wire not only receded to its original length, but fell as much below that zero as it had previously risen above it. That a very remarkable change is produced in the palladium by the absorption of the hydrogen is shown by the manner in which it burns. A wire so charged with hydrogen, if rubbed with the powder of magnesia (to make the flame luminous), burns like a waxed thread when ignited in the flame of a lamp. It has been proved that the tenacity of palladium is altered by the occlusion of hydrogen. The tenacity of palladium wire being 100, the tenacity of palladium and hydrogen was found to be 81.29.

Dr. Faraday determined, by many experiments, that palladium is "feebly but truly magnetic," and he placed this element at the head of what are now called *paramagnetic metals*. The experiments of Mr. Graham show that, with occluded hydro-

gen, palladium becomes so magnetic that it must be allowed to rise out of the paramagnetic class, and to take place in the strictly magnetic group with iron, nickel, cobalt, chromium, and manganese. Many chemical peculiarities distinguish this compound from ordinary palladium. The conclusions which appear to flow from this enquiry are, that in palladium fully charged with hydrogen there exists a compound of palladium and hydrogen in a proportion which may approach to equal equivalents. The charged palladium is represented by weight as

Palladium	.	.	.	1.0020 grm	.	99.277
Hydrogen	.	.	.	0.0073 grm	-	.723
						<hr/>
						100 000

It is in the proportion of one equivalent of palladium to 0.772 equivalent of hydrogen $H=1$, $Pd=106.5$. The evidence is therefore strong that a true alloy is produced, and to this alloy the name of *Hydrogenium* has been given.

In this alloy hydrogen appears to be reduced to the metallic state, and the great problem of the chemist, as it regarded the physical condition of hydrogen, is satisfactorily solved. The magnetic character of this alloy may have its bearing upon the appearance of hydrogenium in meteoric iron, in association with certain other magnetic elements.

The absorption of hydrogen by palladium is a striking fact. That this gas is absorbed by platinum and by iron has also been proved. The occluded hydrogen found in meteorites points to a condition in space, upon which we can only obscurely speculate. Spectrum analysis is teaching us that this element—hydrogen—forms an important constituent of the nebulous groups and cometary films. The examination of surface forces instructs us that the element which, oxidised, becomes water, and which, in its combinations with carbon, plays so important a part in the animal and vegetable economy, is no less essential as an agent modifying the conditions of the mineral world. From the study of little things—the solution of sugar, the absorption of water by a sponge—we are advanced to the discovery of truths which bear on the mysteries of molecular structure, and on the constitution of worlds in space.

Editorial.

AMERICAN DENTAL ASSOCIATION.

THE Ninth Annual Meeting of the "American Dental Association" was held at Saratoga, on the 3d, 4th, 5th and 6th of August.

A very pleasant time was enjoyed by all those present, both in and out of the meeting.

The sessions were equally as interesting and harmonious, if not more so, than those of any former years.

There were, perhaps, one hundred and seventy members present.

The character of the papers and discussions certainly show most clearly, that the active minds of the profession are very far from resting satisfied with present attainments.

There is great search being made into the deep things of science, and an appropriation of whatever may be used for the development and upbuilding of our profession. Judging from the multiplicity of instruments, appliances, methods and processes that were presented there, one must be fully impressed with the fact, that the inventive faculties of the profession are not soon to be exhausted.

There is a large number of men in the Dental profession who seem to be fully aware that there are yet unexplored fields, the cultivation of which will yield a rich reward. We hail with delight the success of the work, in both the art and science.

We most heartily approve the selection of Nashville, as the next place of meeting of the Association, and we hope there will be no Niagara there, with its attractive grandeur, nor Saratoga, with its ten thousand fascinations—races, are an attraction to some people. Twelve o'clock sometimes reduced the number in attendance at our meetings in a marked degree.

Nashville is surrounded with beauty, and full of it too, and we trust the members of our Association will rest so well satisfied of that fact, that they will not feel impelled to go in search of something magnificent or grand, but will be able fully to give their undivided attention to the work in hand.

One of the greatest obstacles to the progress of the Dental profession is found in the fact, that a very large proportion of its members, are not sufficiently in earnest. Were it not so, the American Dental Association would have at least one thousand active, earnest workers in attendance, and they so fully intent upon the accomplishment of the one great common object that they would move and work as one man.

The subject of professional education was almost wholly overlooked, which we regard as a great mistake. This Association being national, its counsels and declarations will necessarily exercise an influence upon the whole profession; and we are confident that no more profitable theme could occupy the attention of the Association than the education and preparation of those who are in the future to enter its ranks, and be its standard bearers. A great responsibility rests upon those now in the field in this respect; and the proper means of discharging this responsibility should receive most serious consideration. We trust this subject will receive more attention at the future meetings. T.



IN TOE-TOE.

THE "American Journal's" toe is worse—that is, it whines louder. And we have still stronger evidence that its editor is our old schoolmate, Charlie * * , under an assumed name. When a new scholar made his appearance, Charlie always maintained that he came to school only to step on his toe, especially if he had shoes on. Charlie was intensely in earnest about that toe; and when we laughed at him, he thought each one did it "to conceal his vexation," because we had to "toe the mark" and he hadn't. The proof of identity is still stronger: Charlie always tried to tell the truth; so does the "Journal." Charlie didn't always succeed, neither does the "Journal." For exam-

ple: it speaks of a foot-note we "took the liberty to add to Dr. Morgan's article as published in the REGISTER," when the truth is, we took no liberty at all, but asked Dr. M.'s consent, which was not only cordially granted, but he even suggested an improvement in our language, which was at once adopted, rendering the foot-note more emphatic. The facts are about these: An impertinent puppy, at the Chicago meeting, catechized Dr. M. in reference to his politics, as a test of his fitness for office. Dr. M. supposed the nominating committee sent him, and said so in his article. An editor of the REGISTER was Chairman of the committee, and presided at all its meetings. Knowing that the supposition was not correct, he did not feel willing that the reputation of the whole committee should suffer for the misconduct of one unmannerly dolt, and asked the privilege of a foot-note. And now, the "Journal" (or Charlie, as the case may be) says, "We professed to give our readers Dr. Morgan's statement, and do not admit we were under any obligation to add the comments "W" was pleased to make concerning it, the more so as we regard Dr. M.'s word to be as reliable as that of "W.'s".

But the "Journal" at the same time professed to publish an article from the REGISTER, and mutilated it. Seeing the article credited to the REGISTER,—remembering that one of its editors was chairman of the committee, and knowing that they would not likely keep quiet under a charge of dishonorable conduct, the readers of the "Journal" would naturally conclude that the nominating committee sent that specimen of animated impudence to insult the whole profession of the South, in the person of its most honorable and influential member; and the "Journal" did all it could do to persuade its readers that all this was true, *when it knew that it was not true*. And there is no occasion to compare Dr. M. and "W" as to veracity; for there has been no conflict. Dr. M. *supposed* "W" as Chairman of the committee *knew*; and Dr. M. appeared gratified to find the facts more creditable than he had supposed.

But Charlie—(excuse us) the "Journal" thinks the REGISTER is opposed to "the formation of a Southern Dental Association." Of course it is! The REGISTER is opposed to all Dental Associations. It "can not forgive the old Mississippi Valley Associa-

tion for starting it, and expects to borrow all of poor Job's curses to hurl back in its mother's face one of these days. It publishes a list of the societies once a month only to make fun of them. Its editors have always set their faces like flints against the formation of societies; and that is the reason they never attend any of their meetings.

Our mothers taught us that Charlie's blood was poisoned by the matter from his sore toe, and that we mustn't think hard of him if he talked nonsense and acted ugly; and we didn't, and will not now. When Charlie's whining became unbearable, his mother used to apply a slippery elm poultice to his toe. The "Journal's" mother might get the bark, and have it ready.

W.



ANOTHER EXPERIENCE.

ABOUT nine years ago we gave an account of an operation under the hands of Dr. ATKINSON, in the spring of 1860, upon our second left superior molar, decayed largely upon the posterior proximal surface, involving the masticating surface to some extent, also the pulp chamber—the pulp being dead at that time, the roots and pulp chamber were filled. Upon examination, on the 10th inst, August, 1869. Some imperfection was found along the borders of the lateral walls, and slight at the cervical border. In order that the operation might be most thorough, it was deemed best to remove the filling at least from the decayed and pulp cavities, which being done, the walls for the most part were found to be in a good condition, except some odor, occasioned by leakage through the imperfect border. This was corrected, and the cavity properly excavated and prepared, and then filled with (to us the novel feature of the operation) No. 20 gold foil, and this packed with a 6 ounce lead mallet, and all this with less unpleasant sensation than had been experienced nine years ago in filling the same cavity with Nos. 4 and 6 gold foil, condensed with a wood mallet of about 3 ounces. The introduction of the former filling occupied four hours and twenty minutes; the introduction of this one about two hours. Ninety grains of gold was used in this filling, and about seventy in the former.

The cavity was slightly larger now than before, and the fissure opened across the crown to the anterior proximal surface, and then communicating with a small cavity in that surface. This was additional filling over the former one, and all this done within the two hours.

There are two or three points in connection with this case worthy of note. At the time of the first operation the pulp had been dead for some time, and an abscess was formed upon the point of the palatal root, which was destroyed at the time of the filling, as detailed in the former description. The tooth has remained free from irritation, and maintained good health, and been in active service ever since, notwithstanding its hasty destruction was foretold by many *prophets*. Another point is the manner of its recent filling; with No. 20 foil, with a lead mallet, with less annoyance than before; and in less than half the time, and considerably more work being performed.

For a few hours there was a slight periostial disturbance, but it soon passed away, and now, at every roll-call it answers "here, and ready for duty." And now we are ready for another batch of prophesies. So come on ye prophets.

Dr. ATKINSON is using No. 20 foil quite extensively and with great satisfaction. We are using these heavy foils, and shall have something to say upon the subject by and by. T.



FOUND.

WE found the man the other day that knows everything, and it was truly refreshing. We have often wondered how people that know everything feel; they must have intense satisfaction in the fact, and great commiseration for other folks. Well, people who don't know anything are to be pitied. We hope that man (we mean our man—that Dentist) will be around again soon, for we have seen several of our friends recently who wish to know something, and they are just waiting for our man. Our man does not write, but he makes *oral communications, by the word of mouth*. T.

SOUTHERN DENTAL ASSOCIATION.

IN obedience to the call issued sometime previous, a very considerable number of the profession of the South met at Atlanta, Ga., July 28th, for the purpose of organizing a Southern Dental Association. We are pleased to learn, that the object aimed at was readily and harmoniously accomplished—that an Association was organized upon a good basis, and in such a manner as to promise much for the profession in that part of the country. Though this work has been delayed somewhat, we doubt not, indeed we know from the ability of many engaged in it, that it will not be behind many of the older societies in efficient work.

The next meeting will be held in New Orleans, in April next, when we hope there will be a very large attendance of earnest workers.

The officers are Dr. W. T. ARRINGTON, Memphis, Tenn., President. Dr. ———, New Orleans, Rec. Secretary.

T.



PERSONAL.

DR. W. W. ALLPORT, who is so well and favorably known to the profession throughout this country, and in other countries too, where there are Dentists; recently sailed for Europe, to be absent for a few months. His object is physical recuperation and enjoyment. The Dr. by close confinement and hard work has made serious inroads upon his health. Our sincere desire is that the journey may be full of pleasure, and that he return as soon as practicable restored to health and vigor. DR. A. is one of the men we can not afford to loose for any considerable time.

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Original Communications.

DENTAL ETHICS.

BY H. L. SAGE, BRIDGEPORT, CONN.

As the code of ethics adopted by the American Dental Association at its sixth annual meeting is the one by which all societies entitled to representation in that body are governed, it follows, that there ought to be a clear apprehension of the ideas embodied in the several articles therein set forth; especially so, from the fact that divers members of the profession guilty of the breach thereof, have plead, in extenuation, an unintentional ignorance or misconception of what constituted a violation.

Whatever may be the opinion of individuals, as to the wisdom or propriety of the Association in adopting such a code, or of its expediency or general effect, it is a fact which most will admit, that until repealed by that body, it should be rigidly enforced by the Association, and practically acquiesced in, and kept inviolate in spirit and in letter by every individual member thereof. Though it may be true, as stated by a member of the committee authorized to draft it, that such a code is "unnecessary for gentlemen, and its enforce-

ment impracticable upon those who are not," it still has this advantage, that it may, as a means of *discipline* for the latter class, prove quite beneficial.

None but gentlemen would add dignity or worth to the American Dental Association, or to any state or local society, by their presence or influence, either as delegates or members; and what would be more effectual in preventing the advent of exceptionable characters into our various Dental societies, or *if* admitted in acting as a restraint upon the natural tendencies of such to the commission of overt acts, or as a check upon *unprofessional* conduct, than a well enforced code of ethics?

With it as a controlling influence, no society need be disgraced by the presence of such. And if, as has sometimes been the case, Dental practitioners of no mean pretensions, of whom we had expected better things, have so far forgotten their obligations, and the relations they have sustained to the profession at large, as to violate its plainest and most reasonable provisions, can it be expected that others of less experience and fewer advantages, and in whom less confidence has been reposed, should not need its restraining influences? Guilt is imputed relatively, in proportion to the intelligence of the guilty party, or the light and knowledge sinned against, and should be so regarded.

Would it have been amiss had an exposition been given by the committee appointed to prepare the code of ethics, of the true intent and meaning of the various points therein embodied, so that none could violate its restrictions under the plea of ignorance of its meaning? As no such explanation has, that I am aware of, appeared in any of the Dental journals, would it indicate a want of modesty should the writer present a few views in relation thereto? Good may result by the comparison, and if unwarrantable inferences are drawn, or wrong conclusions arrived at, light from other quarters may be elicited.

Concerning the first article and its three sections, which

treats of the "duties of the profession to their patients," it is, doubtless, clear to the minds of most, what its scope and intent is. Therefore, a few observations will suffice.

Nothing is, unfortunately for the growth of our profession in true worth, more apparent, than the fact that our patients "are, in most cases, unable to correctly estimate the character of our operations." It is often the case, that the most pains-taking efforts which combine to produce the most perfect results, are not at all appreciated by the recipient. Hence, when we find one who does value our endeavors to properly perform our professional duties towards him, we feel more than compensated for our trouble, aside from any pecuniary considerations, and take a just pride in our progress toward perfection. If we act conscientiously and impartially, not permitting any operation to be declared complete until our skill has been exhausted, and the patient has received the benefit of our best services, unless prevented by him from observing such a course, we shall carry out the spirit of that portion of Dental ethics, which treats of the duties of the Dentist to his patients so far as Dental practice is concerned.

But while the former has a duty to perform towards the latter, it is clear that the majority of the public do not, and never will recognize their indebtedness to the Dentist, or in what their duties towards him consists, until his status has been made apparent by the protection of state laws, which shall discriminate for them, who is justly entitled to their confidence and support; and until it is, he must remain content upon an equality, real in some respects and but seemingly so in others, with the unprincipled, incompetent and self-conceited quack.

The second article is composed of requirements, relative to the maintenance of professional character, and is, in reality, but a continuation of the first, one being essentially and practically dependent upon the other in the result to be attained. Many of the points in this article are so plain that

comment would be superfluous. Others may appear somewhat ambiguous as to their full meaning, that is, cases may arise in which he may honestly entertain doubts as to how far propriety will allow us to go in certain directions and not conflict with our duty; and as the violation of the third section of article second has proved a more positive base of action against individuals than that of the others, probably because of the greater publicity of some of the acts therein specified, I propose to pay it some attention, but not until first glancing at the preceding sections.

And first, how may a member of the Dental profession maintain its honor? Answer, by endeavoring to maintain his own honor and self-respect. He who respects himself will be honored and respected by others, for self-respect is begotten of those thoughts, desires and affections, which eventuate in good deeds; and he can not respect himself without his motives are so evenly balanced by corresponding acts, as to elevate him from day to day to higher planes of duty and nobler experiences, so that his progress shall be continually apparent to himself, to others and to God. It is only by his own enlargement and growth in moral and intellectual qualities and attainments that he can hope to "extend the sphere of usefulness" of his profession. To be able to impart, he must first receive, and then he must have the disposition to labor for others. "Freely ye have received, freely give."

With such an individual basis of action, the profession at large can not fail to receive benefit therefrom, and ways and means of carrying out liberal designs, and maintaining the honor and efficacy of the profession will naturally become manifest; and it will result in purity of language and conduct, and a respect for the wise and good of the Dental and other professions and avocations. The aged and the young must alike commend themselves by their deportment if they would entitle themselves to respect; and the encouragement of the former will be extended to the latter in proportion to

the success of efforts put forth in the face of contending obstacles.

Let me next draw a few references from section 2, article second:

Show me one who is striving with all his power for the mastery of evil, and I will show you a gentleman. Purity within, begets purity without, and cleanliness is akin to Godliness. The latter suggests the former. Not that it is not possible to "make clean the outside of the cup and platter," while neglecting matters equally as weighty, but the weightiest matters must not be passed by, although personal and office arrangements indicative of purity of taste, and a desire for the comfort of his patients, should be sought for by the Dentist, and will be appreciated by the refined and high-toned public; while those of opposite and groveling tastes can not but be favorably impressed, and may be led to seek for higher and better things.

The third section holds up to view, and specifies *unprofessional* acts, and advertising receives a due share of attention, and under this head makes plain what, in this respect, would constitute a breach of the observance of the spirit and letter of the code of Dental ethics. "To resort to public advertisements, cards, hand bills, posters, or signs, calling attention to peculiar styles of work, lowness of prices, modes of operating," is unprofessional. This is a plain statement, and seemingly no one, unless fearfully blinded, need mistake its import. A violation of this portion of the code comes to our knowledge more frequently than any of the others, it being of such public note that "he who runs may read." As the proof is as positive as its publicity, it can not be gainsayed, and the accused can only plead guilty to the charge, unintentional, though the commission of the act may have been. If he seeks an excuse, he will perhaps put it on the ground of a misapprehension of what a violation implies, or of his inability to determine where the dividing line is between what would be considered as proper or improper mat-

ter for a public notice of his specialty. Hence, if disinclined to abide by the requirements of the code, he may, perhaps, under such pretense, immediately proceed to make known through the columns of the "Bulletin," of his "ability to perform all operations entrusted to his care at prices lower than the lowest, and cheaper than the cheapest," at the same time "sparing no *pains* to give satisfaction." Another has "the cheapest office in the State," has had "20 years experience" and "warrants all work." Another "inserts an upper or a lower set of teeth for \$5.00." Ask him about it, and he will inform you "his only object is to allure; (the simple!) for the best he charges as much as any one." What does this holding out of false inducements indicate? A "moral obliquity of vision"—a letting down of professional dignity and honesty of purpose. But the section under consideration does not, as generally understood, prohibit all kinds of advertising. A handbill with the most modest inscription would not be in correct taste as an advertising medium for a member of the Dental profession in good standing, even though resorted to by traveling medical men of a certain class. Handbills and posters amount to "a distinction without a difference," being so nearly synonymous. A local sign, with name and profession inscribed thereon, would be a legitimate way of calling public attention to location.

The more aristocratic door-plate is not at all prohibited, either by the present version of Dental ethics, or the city authorities. But there is only one more legitimate form to be mentioned as implied by the wording of section three, in which we may invite public attention to our calling. It is the simplest imaginable: a mere business card stating the Dentist's name and location, including the number and name of street, and the name of town or city and state. He who goes beyond this limit, practically ignores the truth of a saying usually accepted as fact, (though a certain and numerous class of the community never act upon it) that "true merit

will be sought out," and places himself in the list with him whose assumptions have not always been sustained by corresponding acts, (except in the matter of cheapness, which is a talismanic word with many) and whose merit consists more in his ability to puff himself into notice, than in the possession of attainments, which will of themselves prove a source of attraction to the enlightened portion of the public. But, in the present state of society, the opposite class, constitutes by far the major part, especially in relation to everything that pertains to the profession of Dentistry.

I have not noticed every point in section third, as they are sufficiently plain to need no comment. But that it is unprofessional to "call attention to peculiar styles of work," is a statement requiring some qualification. For example, he who has a valuable article as a base for artificial teeth, should not be restricted from giving it publicity by a modest, succinct and truthful statement of its real merits, which does not necessitate the employment of posters or handbills in the street cars, or other public places, or the usual methods adopted by showmen and others, or the "publishing of certificates" and testimonials for public perusal. Yet, it is now interdicted by the 3d section of article second. "Or go from house to house to solicit or perform operations," is also prohibited, and rightly. There are cases, however, in which it would be no breach of Dental ethics to do this. For an invalid, unable to go out, it would be right and praiseworthy to perform any deeds of mercy pertaining to our profession. Even if called to attend him at his residence—of course this would not be considered out of place.

The first clause of section 4, article second, may claim a passing notice. It reads thus: "when consulted by the patient of another practitioner, the Dentist should guard against inquiries or hints, disparaging to the family Dentist, or calculated to weaken the patient's confidence in him."

We are not to infer from this, that when a case is presented for diagnosis and treatment, we are not to state what the

indications are, when known, although it may show improper treatment upon the part of the family Dentist. He whose services are sought by a patient to remedy the bad consequences arising from the mal-practice of a neighboring practitioner, would be doing the latter no injustice, to state to the former wherein the improper treatment consisted, if apparent, and what would have been the right course to pursue, though charity might suggest silence. By no means. So that while we are to look with due allowance upon the blunders of a professional brother, knowing that all are liable to mistakes, at the same time we have our own reputation to sustain, and without enquiring the name of the family Dentist, we may give assurance of our ability to produce the desired result, though it may be an improvement on the practice of our predecessor, provided that ability is ours. To resort to any other course would be doing injustice to the patient as well as the Dentist in charge, for if the case is entrusted to his care he is derelict of duty if he does not give the patient the benefit of his best services, or else decline to operate.

Every Dentist in full practice will, occasionally, be consulted by the dissatisfied patients of others, and requested to give his opinion of the merits, or to point out the defects in a piece of Dental mechanism, for no other purpose than to find some ground upon which to base complaints, which may be brought to bear upon the luckless Dentist who was so favored with his or her confidence, as to be entrusted with the manufacture of a set of teeth which, perhaps, he inadvertently (and unprofessionally too) "warranted to set." In such cases it would be well to employ caution, in expressing an opinion, or, better still, withhold it altogether.

Section 5, which relates to fees, I do not propose to offer any suggestions upon, or upon article 3, concerning the relative duties of Dentists and physicians; and as this paper is already sufficiently extended, the consideration of article 4, which has been somewhat anticipated in other portions of it,

will, for the present, be also omitted. Should the exigencies of the case render a further consideration of the subject advisable, it might be resumed at a future day.



MISCELLANIES.

BY H. SCOTT.

I could not think of a heading that would appropriately cover the rambling thoughts I proposed to myself to write down, and which I hope to make suggestive of better conduct in some things pertaining to Dental practice, and I have, therefore, chosen the only one that is supposed to embrace everything. There are many matters I wish to speak of, and as I wish to be untrammelled, I shall let my thoughts take an entirely miscellaneous range. I don't intend to intentionally tread on any bodies toes, but if my strictures should fit any one, I have only to say that I hope such will be as much obliged to me as I would be to them if they were to tell me of my faults and short-comings.

I am not unaware that it is easier to give precepts than to execute them. I know that it is easy to run on over paper, penning plausible things, or verbally to magnify and overstate, while I am equally conscious that in either case it is practicable to confine one's self to facts and actual experience. Too much, perhaps, has been written that has done no body good; while on the other hand, too little of actual experience has found place in our journals. We don't want fancy or speculative theory, we want facts. Our books (some of them) abound with impracticable suggestions; suggestions that cause many to blunder in trying to reduce them to practice. And then, every one that thinks worth while to write, or speak his experience, has ways of filling teeth, and doing other things, peculiarly his own, just as if there were no one best method.

I know it may be said that some men can make good fillings by one method, and that others can make as good by another method; but all this looks to me like empiricism. One physician cures fever by alopathy, another by hydro-pathy, and still another by homeopathy. This seems very strange. It is incomprehensible, but we must let it pass. For myself I can conceive that there can be but one *methodis medendi* in specific disease, and but one best way of performing Dental operations, as there can be but one law governing the action of acids on alkalies. The only question is, are we, any of us, masters of our specialties? That's the inquiry. If we are not, we are to the extent that we fall short, groping in the dark. The writer is entitled to no exemption under his strictures, and only pleads a very long and careful observation as an apology for writing at all.

Let us have facts carefully and correctly stated so that any one can understand exactly what has been done, and what is meant. Some things in our literature are obscured by ambiguity; some are carelessly stated, while others are so delivered as to utterly bewilder the student. Thus, one writer said he had seen "whole sets of teeth hopelessly decayed, and judged to be unfit for filling, restored to health and made serviceable for the purposes of mastication by the use of the file alone." Now, is there a practical Dentist on earth who can tell what this man meant to say?

Another says he "continues the use of the file 'till the softened bone is all removed, as a preventative of decay." How would a young practitioner proceed under such a suggestion as this? And a "preceptor" said "when a patient presents himself to me to have his teeth filled, whose mouth is stinking and filthy, I never touch it, but send him away, until his mouth is restored to a healthy condition." Any one would mentally ask, "how is the man's mouth to be rendered healthy if the Dentist never touches it?" Perhaps we should charitably believe that such writings are the result of

carelessness only; but they are none the less confounding on that account.

It is only required that statements be intelligently written down, and that nothing be written but facts, when it is the intention to instruct, or communicate results. Let that which has been done be stated as it was done, in language that no one can misapprehend, or fail to understand. I have read many statements of practice that I could not for my life follow out. For instance, I have never filled the fangs of a molar tooth "quite to the apex;" and I take this occasion to say that I don't believe any other man ever did with metal. And then when a Dentist says over his signature that he injected fluid into the nerve cavity of a necrosed tooth, which was passed out through the gum opposite the point of the fang, and that he continued his treatment in this way until "all the parts were restored to a healthy condition," and then filled the tooth fang and all, and that it continued to do well. I am satisfied of the fallacy of the whole statement. I don't like such loose language. If the writer had said he filled the tooth, including the fang, and that the fistulous opening that gave exit to his injected fluid remaining open, discharging puss through the gum, there was no active inflammation, and therefore the tooth "continued to do well," he would have stated the case correctly and intelligently. It can not be possible that he wished anybody to believe that the denuded alveolus and point of the fang were re clothed with periosteum, healthy periosteum, transmitting life and nutrition to the restored bone, and otherwise performing all the functions of organic animal life, which must have been the case, if the parts were all "restored to a healthy condition." And further, I must be allowed to say, that I am satisfied that more has been written and said about fang filling than the practice will justify. But, I do not propose to raise questions, and will pass this matter, allowing every one to do what he can in that difficult business. I will say, however, *en passant*, that until we can learn to restore

the wanted vitality to nerveless teeth, and become skillful enough to obliterate all space, "quite to the apex of the fangs," we must be prepared to meet with failures in fang filling, as a means of keeping the teeth validly in the mouth.

To me, there is nothing reasonable in the idea that the oxychloride of zinc can induce the formation of natural bone over exposed pulps. It is a foreign substance, and an irritant; and I have found in several cases where I used it under favorable circumstances, that at the end of a few months, or a year afterwards, the pulp was all gone, and there remained simply a necrosed tooth. A few cases where I have applied it to newly exposed nerves, have resulted in toothache, more or less violent, which, when not seen in time, ended in death of the nerve, periostitis, swelled face, and sometimes in abscess. But some of my cases are going on well yet. Still, the oxychloride promises to become a useful agent in our hands; and I love to use it under my fillings when I know that they approximate the membrane. I use it thus because of its non-conducting qualities. In sensitive dentine it has also proved of great value to me. I have applied it in cavities where it was impossible to cut away, and in a few hours, days or weeks, as circumstances favored, have performed the operation of excavating with no pain whatever.

My success in attempting to save nerves alive, after exposure from any cause, has not been satisfactory; nor do I believe so desired a consummation is likely to be reached, except in a very limited number of cases, unless our knowledge of vital chemistry should be greatly enhanced. The nerve of a tooth is a tissue altogether too delicate and sensitive to sustain quietly the near neighborhood of inorganic matter, or rapid conducting bodies. I regard all such cases as perplexing, and would rather not see them come to my office; and I feel that until some new and more successful method of treating them comes up, it is safest to destroy the pulp at once, and take the chances of fang filling under the best fa-

cilities that can be devised. And here, lest I should be misunderstood upon my previous remarks, I say that I approve of fang filling, as far as it is practicable ; though experience has taught me that great pains taking is required in its conduct. I first pack with cotton and creosote as far as it can be pushed, and as firmly as possible, and let the case remain for an indefinite period, or until I feel that no danger is imminent, when I complete the filling with tin foil. If all is well at the end of a few months, I remove the tin and substitute gold, and seldom have trouble afterwards, if all my manipulations have been carefully conducted. My reasons for using tin are, that in the event of threatened mischief from pent up fluid, or gas, it is more easily removed. It is, therefore, a trial filling. And I never let a patient go away with the understanding that teeth thus conditioned are not in perfect harmony with the general system, and that periostitis may set in at any time, when the equilibrium of the vital forces becomes broken.

I abhor misunderstandings. We have trouble enough in combating ignorance, without ourselves bringing more, either by stating too much or too little. We must deal fairly but firmly with our patients, at the same time that we avoid that egotistical air which says, all "over us " "I know it all, what do you know?" And then, it is just as easy to err on the other extreme by attempting to talk a patient into a new set of teeth, or the necessity for a certain amount or kind of filling, or other operations, by mere volubility of words or strategy. Both these courses offend all persons of good sense, and seldom fail to inspire the idea that the Dentist has more intention towards the purse than the real good of the mouths of his patients. There is a class that can be talked into any measure, I know ; but reaction always comes at last, and these very persons will, when sober reflection takes possession, abuse or praise the Dentist in the proportion that his promises have been realized or otherwise. Everybody

finds out if they have been deceived, and if they see that it has been done for money, nothing on the part of the deceiver will ever again secure their confidence.

The whole world dislikes and shuns mere mercenary men ; for every individual wants disinterested friendship, and will pay cheerfully its equivalent, either in money or like good deeds. If there are, therefore, men who have entered the Dental profession under the dominant idea of getting money quick and easy, and with little capital, they are in the wrong place, and so far as found out, ought to be shunned and neglected. He is a poor judge of human nature, and even of his own interests who has deemed it necessary to play upon the credulity of people in order to secure patronage and money and reputation. Honest merit is always compensated, while those advantages that the demagogue calls about him are as the morning dew. And why should I envy my neighbor because he is my competitor in business? He may be my superior in some things, and I may gain something by conferring with him, and he may learn of me ; and if the people see that we are trying to sustain each other, they will think the more of us both. And under such circumstances the public patronage will be distributed fairly. No man can secure all the business of his community in anything ; the world is not arranged on that basis. Pure intentions and honest conduct will always be rewarded ; and I shall hold that if a Dentist is as honest as he ought to be, he will not desire business when he is conscious of his incompetency, but turn his attention to some pursuit for which his talents fit him.

There is no consolation of life so sweet as that which springs from perfect self approval ; or in other words from being satisfied with one's self. Our unintentional failures are goading and depressing, whether they be of a moral character, or belonging to the business and temporal affairs of life ; but how much more so those that have been done with a will, when the unpervverted moral sense comes to see

them. Did you ever feel a sweeter complacency than that which follows a day well spent; a day in retrospect which no act of yours rises up to condemn; a day in which you have been perfect in all your manipulations about the mouth; and have discharged every moral, civil and social obligation to all you have been called into commerce with; and have received the pecuniary remuneration due to your services?

But these are pictures I don't like to dwell upon; and I would not parade them before the reader, but for the hope that some may see their image reflected, and be all the better for the sight.

It has chanced to me, as well as others, to fall in company with Dentists who, during an interview more or less extended, could find no theme of discourse, or object of thought outside of or above themselves. They are not long in letting you know what their monthly business will foot up, which is sure to be a pretty large figure, if you take the verbal statement in place of the day book, which is rarely produced. And then they have done over so many plate jobs that somebody else had made, and which could not be worn, besides refilling most of the teeth that had been filled round about, and always charged high prices too, which of course is to be taken as evidence of merit and skill; and they have patients coming from long distances; and such is the rush of patrons that they never get to dinner, and have hardly time to be civil to friends; and if no one happens to drop in while you are there, "it is the first time it has happened so for six months." And they have ways and methods of doing things that are all their own; and somehow, when the interview ends, you are just as wise as when you came, so far as your friends ways and methods are concerned. You may, if you choose, be overawed by the superiority of your brother professor; and you may likewise feel a little dampened if you have tried to talk some too, to find that after you have seized an interval to force in a few sentences, your companion remains utterly oblivious of what you have said, and chimes in again

at the very point where you suspended him. One man who had really attained to some celebrity as a Dentist, had his workshop in the garret, which was a sealed department to all besides himself.

And again, the brains of some self sharpener has worked out an invention that is to be of real or imaginary benefit to the facilities of the Dental art, and with the speed of the locomotive it travels to Washington to secure letters patent, that all its ghostly or material pecuniary issues may be alone to the inventor. There may be a difference of opinion on this practice of patenting Dental inventions. One thing at least must be conceded: discoverers and inventors are a useful class of men; but if anything useful is found out in Dental appliances or material, and the secret or right to use is to be thrown into the market, under the protection of law, to enrich the discoverer, it is simply a mercenary view of the subject. I sincerely hope that our Associations will set their seals of disapproval on all Dental patents; and if the seal includes the patentee all the better.

The question, "how much money can I make out of my profession?" is a low conception of life and its responsibilities. But it is to be feared that, impelled by the frantic rage to get wealthy which marks the times, many may be tempted to depart from honorable professional life, in order to make the most of their cases. In this way I have sufficient reasons for believing that millions of teeth are annually pulled ruthlessly from their sockets in order that the Dentist may supply their places with artificial sets, with a moiety of the pains taking, labor and time that it would have required to treat and fill the natural ones, and at the same time gain larger profits.

This practice I hold to be just a little less than criminal, in cases where the teeth could have been patched and mended, and made to answer the purposes of mastication. It is our first and highest duty to save and not destroy. I am aware, however, that we all have to extract many teeth

in the course of practice that could be saved in some condition of use and harmlessness in the mouth, for a greater or less space of time. This happens in the case of persons who come to us with tooth-ache, and must have relief, and who we know own neither the means nor inclination to have anything done beyond getting rid of a painful tooth. In such cases the extraction of the teeth without regard to what might be done to retain them is right.

The professional Dentist should be a gentleman in the fullest meaning of the title. He should be a Christian gentleman. His work is plain before him. He does not have to feel his way. That which he has to do can be done, and he can comprehend it all. The Dentist is to make himself personally agreeable; ever pleasant to his patients; in manners as well as in the delicacy and gentleness of his manipulations of the teeth. When the infliction of pain will be unavoidable, kind and aspiring words will take away much of the dread, besides inspiring necessary confidence in the operator; while stern, brusque and unfeeling deportment will not fail to produce the very opposite state of things.

It has always been my rule not to promise too much, and in the long run I have approved my course in this respect. An excellent lady, for whom I had filled many teeth called to have the left inferior *dens sapientia* extracted. It was a shell, and at the time, suffering from acute periostitis. I told her that the extraction would be painful without anæsthesia, and that if the fangs were curved, there was a possibility that the crown might break. She was afraid of me as a tooth extractor, and went away. On the following morning she returned, with the crown of the tooth broken away and after having suffered a night of excruciating pain. She regretted, she said, that she had not rested in my opinion. I think it right to deliver a candid opinion in all cases. It will be best for our patients, and ourselves in the long run.

And finally, it would greatly promote the character and pecuniary remuneration of Dental practice, if there were a

fraternal co-operation of all Dentists. On the other hand, professional bickerings and jealousies are, and will be a dead weight, lowering the reputation of Dentistry; because the people have the right to doubt the competency of men who are trying to build themselves up by traducing others. The idea can not be otherwise, under such circumstances, than that money is the dominant principle.



ON THE RENOUNCING OF RUBBER BY THE DENTAL PROFESSION.

BY B. WOOD, M D., D.D.S.

In a former number of the DENTAL REGISTER (April, 1869) were presented the opinions of a number of Dentists with reference to vulcanite or hard rubber as a base for artificial teeth. Coming from Dentists of standing, most of whom have used rubber, the testimony was entitled to consideration. It seemed proper to give the views of each in his own language, reserving the privilege of reviewing some of the points at a future time.

With a few partial exceptions, the weight of evidence was decidedly adverse to this material as compared with metal plates. The evils entailed, directly or indirectly, by its introduction, were generally conceded, while the course of the Rubber Company was condemned by all. It is believed the sentiments expressed are a fair reflex of what prevailed in the profession.

Looking at the question "what ought the profession to do in the premises?" the light before us revealed no better escape from the difficulties which beset from this source, than to renounce the use of rubber, referring patients who demand this style of work, to those who make it a special business, but who do not call themselves "Dentists" nor undertake to operate upon the natural teeth.

By this means the profession would get rid of these peculiar difficulties, and a class of men who are a dead weight and reproach, and at the same time encourage a class of artisans in a separate calling, as distinct from Dentistry proper as is the manufacture of artificial teeth.

But let us look a little in detail at the objections urged to rubber, and the advantages claimed for it, and see how far the facts necessitate the course proposed.

1st. In respect to the material. It is objected that it is less durable than metal plates, more liable to accident, and not so readily repaired without injury, being weakened by vulcanizing until, after a few times, it becomes worthless; that it undergoes softening and slow decomposition in the mouth, becomes porous on its surface, if not throughout its structure, leaves cracks and fissures, consequently imbibes the secretions of the mouth, and is rendered offensive, polluting the food we eat and the air we breathe; that, whether from injurious effects of mercury eliminated, or other cause, it frequently induces a diseased condition of the mouth, and even impairs the general health—which does not result from metal plates. These ought to suffice to induce professional men, who consult the good of their patients, to reject this material when better is at hand.

The advantages claimed are few: Ease of manipulation, certainty of securing a “fit,” and lightness of the denture. It is denied that the injurious effect upon the mouth is due to mercurial poisoning, but it is ascribed to the non-conductibility of the material.

As to ease of manipulation it is of small moment; none should shirk labor and painstaking if to the benefit of the patient; and what is difficult to the unskillful may be easy enough to the competent.

Certainty of fit, will have little weight with proficient Dentists, since adequate skill will procure as secure a fit with metal plates as can be had with rubber.

Lightness. This fancied advantage has small foundation

in fact. The difference in the weight of rubber and metal plates is rarely appreciable in the mouth. Although metal is specifically heavier than rubber a much thinner plate is required. The actual weight of a set of teeth on metal will be less than one of equal strength on rubber. Indeed, as usually made, dentures on silver weigh less than on rubber.

2d. Influence upon the profession. That the introduction and use of rubber-work, owing to the facility with which it is learned and gotten up, have burdened the profession with incompetent men, doing discredit to the calling and irremediable mischief in community, no one pretends to deny, nor to offer, as offset, any countervailing advantage. Here is a door open wide for any to enter in, though by nature and education wholly unqualified to discharge its duties. The moment one can put in a set of "handsome teeth," (prepared to his hand by the tooth-manufacturer.) that moment he becomes in public estimation a "Dentist," accounted fully competent for the calling. Nor is this all. He takes rank among Dentists as a Dentist; attends Dental societies, makes speeches to be reported in the local papers; is appointed delegate to State or National Associations, and perhaps, ere long is found among the examiners or "censors," conferring "diplomas" upon Dentists of like standing, whom he shall have found "fully qualified" to receive the same.

It is this class of men who are sometimes sought out by veritable Dentists, ambitious of office, and brought into societies to swell the numbers and secure votes; and, of course, the favor must be reciprocated ere long.

These men, so recognized, numbering, perhaps, ten to one qualified practitioner, become counsellors to community, and representatives before them of the profession. Can we wonder at so little public faith in conservative, or preservative Dentistry? With ten voices to one counselling the extraction of the natural teeth and the substitution of artificial sets, and with possibly an hundred examples of tooth-filling to one demonstrating the correctness of their counsel? For, to

illustrate, while one competent Dentist is filling one tooth to remain intact and preserve it, and so prove the utility of Dental operations, there may be ten men, (all recognized "Dentists") each in the same time filling ten teeth, which will lose the fillings or decay in spite of them, thus demonstrating the worthlessness of Dental operations.

Can we wonder at finding so many opposers with unswerving faith in their convictions based upon experiment repeated in their own cases, and those of others? They or their friends "have had their teeth filled by several Dentists"—Drs. so and so, very celebrated Dentists, who inserted splendid sets of teeth for Mrs. or Mr. somebody, "and the fillings came out, the teeth decaying worse than before;" and, (having tested that) they are now "going to let their teeth decay out and have new ones."

It is useless to expostulate, and worse than useless to reflect upon your "brother Dentists;" and lest you venture it they will be likely to give preliminary notice, that they "don't like to hear one Dentist run down another." And what right have you to assail those whom you yourself recognize and fraternize with—all of whom will claim to execute as well as you? And how shall they decide upon the respective claimants, except it be by actual trial, when they think they have already had sufficient trial to condemn all? Those who still resort to Dental operations frequently have to run the gauntlet of scores of friends earnestly warning them, upon evidence like the above, not to have their teeth touched. And why all this? Chiefly because the advent of rubber has enabled incompetent persons to take rank as Dentists—by their counsel, and by their practices destroying confidence in the resources of the profession—sacrificing thousands of teeth that ought to be saved, and causing the neglect and ruin of tens of thousands. But not to dwell longer—all admit that the evils entailed, both on the public, and on our profession, call for some remedy. We know of none better than to sever and cast off the bond of union

which enables the class of men spoken of to fasten upon the profession.

3d. The next objection relates to the exorbitant exactions and humiliating conditions of the Rubber Company. Some object also to the patent *per se*. But we do not found objection on this score. We can not see the propriety of attacking a principle, conceded good and beneficial outside of our profession, because of abuses growing out of it. Suffice to attack the abuses. It surely seems inconsistent to avail ourselves of patented conveniences and necessities in furniture, fixtures, utensils, raiment, etc., and then, with patent pen in hand, turn to denouncing patents.

But there are abuses connected with patents, of which the profession ought to take cognizance. Every patented thing in Dentistry ought to be held on probation, say from three to five years at least, preliminary to any fee for right of use; and the fee and conditions should be defined beforehand that all may have fair warning. This is no more than just and expedient for self-protection, in view of the multitude of patent rights offered. Time alone can test the value of a new thing; and those who take the pains to experiment with it, and introduce it to favor, should not be left at the mercy of rapacious patent-dealers (who, indeed, may have circumvented the real inventors out of their just rights). It would be the best also for inventors, seeking only a fair equivalent, and willing to abide the proper test of merit. It is not enough that an invention comes with fair promises and strong recommendation. Naturally hopeful of their own, inventors are apt to expect and claim too much. Over sanguine in regard to new things, many in the profession prematurely recommend them—with a laudable desire to encourage what they consider meritorious. Therefore, it is better for all to await the verdict of ample time and trial.

The Rubber Company have held their monopoly long enough in all equity (with very questionable moral right to it). They now come forward with an onerous tax from year

to year, reserving to themselves the power to increase it *ad libitum*. They thus hold their patrons at their mercy. It is a disgrace for a profession like ours to be tied hand and foot at the will of any monopoly. The shortest escape is to cut loose and be free—"touch not, taste not, handle not."

Some propose to remedy the evil by discarding all patents, but this is not done, never will be, nor indeed can be done. Others propose the employment of "mechanics at mechanic's wages," and putting rubber work down as low as the lowest, and so "under-bid and drive the humbugs from the field." But this can not avail. "Mechanic's wages" these days will compare with "professional wages," if you consider capital and all expenses. And whatever descent you may make in price, those who have not skill enough to be mechanics, or to earn "mechanic's wages," and can not discriminate between good and bad sets, consequently spend no time in selection, arrangement or adaptation, will under-bid you and your mechanics, and three-fourths of their patrons will be as well satisfied (if the teeth "fit," that is, stay in) as if done in artistic style. When the patent term expires, there will be a still larger influx. With no other means of subsistence, they will put up sets for less than the time is worth to make proper selection and adjustment. We need not be surprised to find in three or four years, rubber sets of teeth as cheap as rubber shoes.

The most feasible course, therefore, which offers, is to renounce rubber, leaving it to men outside of the profession, and so bid good riddance to the two evils at once.

It is objected, that we shall loose business—people will have rubber, &c. So will people have quack medicines, and patronize quacks. Do physicians, therefore, prescribe popular nostrums, and turn charlatans to retain custom? Let the public do as they like—it is for the Dentist and the physician to do what is best for their patients, or nothing at all.

If rubber is an inferior material for artificial dentures, and

likely to be detrimental to health, it ought to be rejected for what is better for patients. If they will have a poor article it is not for professional men to accommodate them.

Again, if rubber work affords a channel for the influx of quacks, to do untold mischief to community, and to the standing and influence of the profession, it is for the profession to close the channel by discarding rubber.

Lastly, if the conditions of the Rubber Company are oppressive and humiliating, it becomes the profession to repudiate their wares.

If all these conditions are combined, it would seem to require nothing further for the enforcement of the position that all true professional men "ought to abandon the use of rubber with one accord." This being done, it is obvious that they ought to "refer patients demanding this style of work to skillful and honest rubber-workers, who will not claim the name of "Dentist" nor in any way tamper with the natural teeth.

But additional to this, it becomes necessary to have some criterion by which regular Dentists may be "known of all men;" and I know of nothing better than a doctorate from a Dental college. If, however, one be a graduate of medicine, he could not legitimately be ruled out; for it is universally allowed that a graduate of medicine is entitled to practice in any of its specialties; while, therefore, we claim Dentistry to be a branch or specialty of medicine, a regular graduate of the latter could not consistently be excluded from the former. Still, a diploma from a Dental school would possess additional claims, as a special guarantee of qualification in this department. But, doubtless, a doctorate, whether medical or Dental, should be required. It is to be regretted the necessity of this can not be enforced upon the older members of the profession, who are not graduates, but still qualified to be. We think the schools ought to make advances to this class. It has been inaugurated by one Dental college, and it is to be hoped the others may reconsider

their opposition—an opposition which has stimulated Dental societies to the expedient of conferring degrees upon their members—an expedient utterly unwarranted, the obvious tendency of which is to make the title of D.D.S. worthless. If the members of any medical society, composed mostly of non-graduates, were to undertake the business of conferring diplomas upon each other, it would be considered a piece of unprecedented effrontery. Medical societies, on the contrary, are in the habit of requiring, as a pre-requisite to membership, the possession of diplomas from regular medical colleges. And we hold that the colleges are the legitimate source of degrees, whether medical or Dental.

ALBANY, Sept., 1869.



ALARMING HEMORRHAGE.

H. SCOTT.

A week since, a young man called at sundown to have the second lower molar on the right side removed. He was of sanguine temperament, florid complexion, in good health, twenty-two years of age, and had worked through the day at his trade of machinist. The ensuing hemorrhage was ordinary and he went away. At eleven o'clock he called me up. He had gone to sleep, and waked in an hour deluged with blood. I found his pulse 100, bounding and quick. The sockets were firmly packed with cotton saturated with sulphate of iron, which very partially retained the jets of arterial blood. An hour passed, and I was thinking of employing constitutional treatment, when a syncope brought my patient to the floor. The pulse fell to 70; perspiration broke out profusely; the flow of blood ceased; and the case was ended. He resumed work in two days, and is all right. Yesterday he had the corresponding tooth extracted, with nothing unusual following.

Selections.

SPECTACLES OR NO SPECTACLES.—In No. 23, last volume (June 5), Dr. J. V. C. Smith advises the public to begin with the firm resolution never to wear glasses of any kind for reading or writing, but to attempt persistently to read without them, by which the eye will regain its former power. To strengthen his suggestion he brings names of celebrated persons who have done without them, still having the perfect use of their eyes to a good old age. Such an admonition is hardly necessary in this age of vanity, for it is usual now, that persons arriving at a period where the failing organs proclaim advancing age, strenuously resist the use of glasses, because they advertise the unwelcome fact.

The truth of the doctor's assertion consists in the fact that the eyes of some are probably susceptible to such a change; but it is only the empiric whose confidence is absolute and final, while the thinking professional makes experiments and watches the results of a trial.

It is easy to collect a small volume of telling examples to prove preposterous opinions, but that is no evidence. Experience must be our guide. Much depends on the individual case, much on the condition of the organism. What will help one won't help others; the great difficulty, beside, consists in deciding whether the beneficial effects attributed to any particular cause really has reference to its action or to some concurrent cause.

As it comes under our daily notice, the method recommended by the doctor has a directly opposite effect on the eye-sight, we can not withhold the suspicion that the recommendation put forth is a fallacy. Let the doctor make experiments, collect precise data; let him give us the maximum time during which we must grope in the dark in order to see light again.

Studious habits, overwork, the taxing of the eye to perform most severe duty for a considerable period of time, are the universal causes of the early failing of its functions, but

the idea of relying upon time for its restoration, is utterly inadmissible, for if time is invoked at all, it must be invoked as the cause of the very evil which we thus propose to leave to its cure.

The progress of civilization, the art of printing, does a great deal toward the increase of weak sight, and as Gutenberg put forth his invention only in 1438, the ancients could not suffer from that source; but even before that date, in 1292, Roger Bacon mentions the benefit derived from the use of a plano-convex glass, by old men and those with weak eyes. This shows conclusively that although Cicero never complained of imperfect vision, even at the age of sixty-three (perhaps he had his, so-called, "second sight," an occurrence not very uncommon among aged people), there must have been many others who have suffered from that defect.

The Bible mentions that Isaac, the Patriarch, had dim eyes from old age.

Experience proves daily that the judicious use of glasses is mostly accompanied by beneficial results; therefore we should think, with due deference to Dr. Smith's opinion, that it is best to submit with good grace to an affliction which can not be averted.—*Scientific American*.



A FEIGNED TUMOR OF THE JAW.—Emamun, a Mussulmani, aged fifteen, was brought to me on November 20th by her parents. They stated that upwards of a year before they had observed a small tumor near the angle of the lower jaw on the left side. It continued to increase slowly; native practitioners failed to give relief; and at last, despairing of a cure, they had brought her to have it removed by operation. There was a tumor on the left side of the face, rounded, of the size of a tea-cup. The skin slid easily over it, and its most prominent part was dusky red, and apparently on the point of ulcerating. The tumor was firm, of a bony consistence, and seemed equally connected with both jaws. The lower jaw was fixed, the mouth nearly closed, and the girl complained of great pain. In spite of the suffering she had undergone, she had not lost flesh, and the right cheek was plump and rounded. On separating the lips, to inspect

as far as possible the interior of the mouth, I observed the ends of two flat bands of a dark color which hung from the tumor into the mouth. On inspecting these somewhat minutely (which was a matter of some difficulty, as she was perpetually starting back, and complaining of great pain) I noticed certain lines which seemed to me to indicate either that the bands were pieces of cloth inserted into a cavity in the tumor, or that cloth of some sort had been recently placed in contact with them, so as to leave its impression. I asked the parents if any cloth had been introduced into the mouth; but they asserted that such was not the case, and the girl corroborated their statement. I now seized the bands with forceps, and, using a little force, succeeded in removing it; the girl shrieked loudly, and endeavored to seize my hand. The band was simply a piece of cloth. On examining the mouth I saw what was undoubtedly a second piece of cloth, which I also removed, and thus I went on removing piece after piece till every vestige of the tumor disappeared. The girl looked foolish and sulky. The parents seemed stupified, and could not at once realize that their daughter's illness was pure deception. They brought her to me again on the following day. There was not the slightest trace of disease. The teeth were sound, the jaws well formed. The right cheek was, as I said before, plump and round; the left was thin, and hung flacid and void of expression. The center of the cheek, which formed the most prominent part of the tumor was now shrivelled up, like the skin of a withered apple. The tumor was composed of twenty-three pieces of cloth, weighing, when washed and dried, 4 ounces.—Dr. Macleod Cameron in *Indian Medical Gazettee*.

DISARTICULATION OF THE UPPER MAXILLARY BONES.—Mr. J. H. Slater, M. R. C. S., sends the following case to the *Medical Times and Gazette*:

So complicated are the injuries which usually happen to the bones of the upper jaw that no attempt has ever been made, as far as I am aware, to establish a systematic classification of them, or special rules for their treatment. Feeling, therefore, that any addition to the instances already recorded would be acceptable to those who are interested in

this subject, I venture to give a short account of a case which recently occurred in my own practice, which, to the best of my belief, is unprecedented in the extent of its injury and subsequent result, in the annals of surgery.

In August last, W. S., a laborer, aged 30, was driving a wagon when one of the horses suddenly fell and knocked him down, with his head under the animal. The ground was very hard from the previous drought. When first seen he was sensible, though unable to articulate distinctly; his face was bruised and swelled; his lips and teeth slightly apart, the upper jaw projecting somewhat over the lower, and unable by any effort to be closed upon it. There was no great deformity of the general expression of the face. On touching the cheeks, they appeared to contain a quantity of "loose bones;" on both sides the malar bones were displaced and movable. On laying hold of the upper incisors, the wedge-shaped portion of bone corresponding to the position of the superior maxillæ and malars was so movable that the impression conveyed to myself and my assistants was that, by a forcible twist, the whole could have been brought away but for the attachments to the soft parts. At the articulation of the nasal bones with the frontal and lacrymal there was a very distinct separation. The floor of each orbit was depressed and freely movable, the left rather more than the right. The entire jaw seemed to be protruded forward, the teeth being abnormally prominent and overhanging. The alveolar ridges and other portions of the bones were unbroken. The horizontal plates of the palate bones were severed from their connection with the vertical, and with their articulation with the internal pterygoid processes of the sphenoid, which could be ascertained on passing the finger along the roof of the mouth, by their extreme mobility. There were no external wounds beyond bruises and abrasions, though the œdema and ecchymosis were subsequently considerable.

The appearances above described were clearly made out and recognized by all present, professional and otherwise, and the disarticulation was beyond a doubt, inasmuch as the bones, in their wedge-shaped entirety, could be freely moved backwards, forwards, upwards, downwards, and from side to side. The separation of the malar bones from their articulation was no less distinct. For a considerable time sense of smell was absent, and the tears, by reason of a slight dis-

placement of the puncta, coursed over the cheeks. At first hemorrhage from the nostrils was severe. At no time was there any great pain. With much time and trouble, I carefully adjusted a gutta-percha casing to the parts. A horizontal slip passed across the upper lip, and exerted backward pressure on the alveolar ridge, to obviate its tendency to eversion. This was joined by two lateral flaps brought from the top of the head (corresponding with the coronal suture) beside the cheeks, and united with another horizontal slip passing from the back of the head below the occiput to either side, to steady and keep in position the two malar bones. These were carefully padded with strips of spongio-piline, which readily adhered to the gutta-percha when hot. Over all, a bandage was put, fixing firmly the lower jaw on the upper by exerting upward pressure. He was fed through an opening of his teeth with fluid food.

In the course of five or six weeks I removed the gutta-percha apparatus, and put on a starch bandage for another fortnight. It was several months before he could bite solid food. He is now convalescent, and very little the worse for his accident, though, as if to bear testimony to the curious nature of the injury, the upper jaw appears to be set slightly askew, and the depression between it and its articulations are abnormally wide.—*Medical and Sur. Reporter.*



ON THE MEDICINAL USE OF PHOSPHORUS AND ITS COMPOUNDS.—We take the following extracts from an article, with the above caption, by John C. Thorowgood, M. D., published in the *Practitioner* for July, 1869 :

Since the discovery and isolation of the element phosphorus by Brandt, of Hamburg, in 1669, it has become the practice with physicians in this and other countries occasionally to prescribe this substance as a remedy in cases where some special stimulant to the nervous centres has seemed to be required. Thus we find that phosphorus has been administered in cases attended with great prostration of the vital powers, as in the latter stages of typhus fever; also in such chronic diseases of the nervous system as epilepsy, paralysis, melancholia, amaurosis, &c., occurring in debilitated subjects; and there is good evidence to show that in many of these nervous affections the effect of phosphorus,

properly administered, has been decidedly beneficial. * *

The well known fact that in cases where an unusual degree of wear and tear of the nervous system is being sustained it is common to find an excess of phosphatic matter excreted in the urine, while the individual becomes increasingly weak, nervous, and irritable, appears to show that exhaustion of nervous force is in some way connected with a rapid oxidation and excretion of phosphorus from the system.

Considering these points, we can see that there is reason in seeking to administer phosphorus as an internal medicine where we have reason to suspect that the nutrition of nervous matter may be failing from a loss of its right proportion of this very essential ingredient.

We give phosphorus for its restorative action over weak nerves, just as we give iron to nourish and restore blood that is weak and poor from lack of this constituent. * * *

Solid phosphorus, given in as small a dose as $1\frac{1}{2}$ grain, acts as a poison, death seeming to take place in a gradual and painless way, with perfect retention of consciousness. There may be some vomiting, and the substances ejected appear luminous in the dark, as also does the stomach itself after death, when cut open in a dark place; but it is rare to find any marked inflammation of this organ: in the case of a bird poisoned by eating several grains of phosphorus, I could find scarcely a trace of inflammation anywhere in the digestive tract. In a case recorded by Casper, where a dose of 3 grains of phosphorus proved fatal to a lady in twelve hours, the body after death presented the extraordinary phenomenon of luminous vapor issuing from each of its outlets.

Analysis of the various tissues of animals poisoned by phosphorus has demonstrated the presence of phosphoric acid in unusual amount: this arises from the oxidation of the phosphorus in the body. Phosphoric acid is also increased in the urine of those who have taken any preparation of phosphorus. The action of phosphorus as a poison appears not to be due to any direct action on the nervous system, but to its preventing the assimilation of oxygen by the constituents of the blood; by thus checking oxidation it may cause the fatty degeneration of the liver so often met with in those who have been poisoned by phosphorus, and which is doubtless connected with the symptoms of severe icterus often seen in the patients before death.

For medical use there are solutions of phosphorus in ether and also in almond oil. * * *

Another very useful preparation of phosphorus is a pill, made by melting finely-divided phosphorus with fat and then covering the pill with an impermeable coating.

Pills that I have seen and used, made by Messrs. Savory and Moore, contain 1-40th of a grain of phosphorus in each pill. Both Dr. Radcliffe and Dr. Althaus speak favorably of the good effect of phosphorus, given thus in very small doses, as a valuable tonic in many chronic nervous maladies. * * *

M. Tavignot, in France, has long been in the habit of using phosphorus in the form of a pill, containing 1-70th of a grain, as a remedy in nervous, chlorotic and strumous affections. In some neurotic and paralytic affections of the muscles of the eyeball, and of the lachrymal nerve, M. Tavignot has used liniments of phosphorated oil with advantage; and, dropped into the eye, this oil is asserted after some month's use to have a solvent action on cataract. * * *

As a gradual tonic and restorer of failing nerve force I prefer the hypophosphite of soda or of lime to the potash salt, and either of these salts appears to me to answer all the purposes of pure phosphorus as an internal remedy, while, at the same time, they are more manageable and agreeable medicines. In cases of nervous depression and torpor, with at times shooting neuralgic pains; or, in other cases, numbness and deadness of the limbs, as from feeble circulation, the hypophosphites prove useful, and the lime or soda salt can be given according to the way in which the stomach may seem to bear the one better than the other. When anæmia is present, the citrate of iron can be added to the hypophosphite of soda, or else the syrup of the hypophosphite of iron, or of iron with quinine, can be employed; and either of these syrups will prove an active tonic, removing neuralgic pains, chest oppression, and languor of circulation in a very evident way. * * *

USE OF CHLORIDE OF GOLD.—Conheim first demonstrated the termination of the nerves in the cornea, by means of chloride of gold.

THE HIGHEST BRANCH OF MEDICINE.—It is a curious reflection that, in theory, the aim and objective point of the three learned professions is to do away with the necessity of their existence. The priest or preacher seeks to reform the world, to make it so righteous that there will be no further need of admonition and exhortation; the lawyer is constantly striving to make crime so unpleasant, and to popularize justice so thoroughly, that the statute book and the jail will no longer be required; the physician recognizes the prevention of disease as the highest purpose of his calling. If he could succeed, there would be little or nothing left for him to do; for prevention would ask little beyond individual knowledge.

Such being the most elevated object of medical science, it is worth inquiry how best it may be attained. Year by year the belief in specifics, or in any doctrine of signatures, has been diminishing, until now we may consider it extinct. We trust in the natural powers more, in the individual capacity more, less and less in foreign impulses communicated to the system. This is true in prophylaxis as well as treatment. Thorough, careful, systematic hygienic remedies are better than any drug or preventive agent.

It is one of the best signs of the times that the care of the body in health has been attracting the attention of medical men of late years, as much as the care of it in disease. Personal hygiene should occupy quite as prominent a place in medical discussions as public hygiene. For every valid effort in this as in political life, must start from the individual.

We should, therefore, as a body, encourage the dissemination of correct views on anatomy and physiology, we should strive to introduce such studies into schools, and we should give more attention to the education of adults in these matters. Domestic medicine is not our admiration. Everybody his own doctor is a calamitous proposition. Certain simple and harmless remedies it were well to have known widely, and procedures in cases of sudden accident. Beyond this the public need not be instructed.

But they should know as much as they will learn about the structure of the body, and how to preserve it in the very best condition.

DETECTION OF BLOOD STAINS.—The detection of blood in old, and often minute stains on clothing, wood, metal, &c., can now be made with absolute certainty. The crystals of hæmatine which can be separated from the slightest traces of blood can always be recognized by means of the microscope—but to decide to what species, whether man or lower animal the blood belongs, is a question attended with great difficulty and uncertainty. In view of this fact, Neumann has recently subjected the question to a rigid and exhaustive examination and has published his results in a book. The work contains twenty-three superbly executed colored plates in which nineteen different kinds of blood are represented, in which the differences of the microscopic examination are displayed in a wonderfully clear manner.

Neumann recommends to moisten the blood stain with distilled water and to heat to about 60 degrees Fahrenheit on the glass side of the microscope. In this way microscopic pictures of human and animal blood are obtained of such dissimilarity that human blood can readily be distinguished from that of any other animal. The author explains in what way this is done and gives ample illustration.



CHLORAL—A NEW ANÆSTHETIC.—BERLIN, June 8, 1869. Being at present engaged in the chemical laboratory attached to Virchow's Pathological Institute, it is with particular pleasure that I communicate to you an important discovery for which we are indebted to its chief, Dr. Liebreich.

Though Dr. L. has laid his discovery before the scientific men of Berlin, in both the Chemical and Medical Societies, nothing has as yet appeared in print, and the hasty account can not but be exceedingly unsatisfactory, yet I trust it will not be without interest, as being the first which crosses the Atlantic.

The researches of Dr. Liebreich have disclosed a new, and to all appearances, most valuable anæsthetic, which bids fair to rank with chloroform and morphine as one of the benefactors of suffering humanity.

Chloral ($\text{C}_2\text{Cl}_3\text{OH}$), the aldehyde of trichlorethted acetic acid, has indeed been known to chemists for perhaps the last thirty years, but its valuable medicinal properties have so far been overlooked. It is a colorless fluid, of penetrating odor, but

almost without taste, obtained by the action of chlorine gas upon alcohol, and is thus prepared in England on a large scale, being used for the manufacture of chloroform, as solution of caustic soda decomposes it, with production of chloroform and formate of soda $\left(\begin{smallmatrix} \text{CCl} \\ \cdot 3 \\ \text{COH} \end{smallmatrix} \right) + \begin{smallmatrix} \text{H} \\ \text{Na} \end{smallmatrix} \} \text{o} = \begin{smallmatrix} \text{CCl} \\ 3 \end{smallmatrix} \text{H} + \begin{smallmatrix} \text{COH} \\ \text{Na} \end{smallmatrix} \} \text{o}$). Upon this process, the gradual decomposition of the soluble and readily absorbed chloral in the alkaline fluids of the body—this slow production of chloroform—probably depend its effects upon the system.

We may compare the action of chloral to that of chloroform inhaled in small, continued doses; in some cases a slight headache followed, apparently less than is produced by morphine. Little can, of course, as yet be said from the few cases on record, though it has been given internally with success to patients in different departments of the Charité. A solution of the hydrate in an equal quantity of water has been used—the largest quantity as yet given being 4 grammes. 4 grammes of the solution contain 2 grammes (32 grains) of the hydrate, and decomposed give 1 1-3 grammes, about 21 grains, of chloroform.

Upon animals the injection has been used with most satisfactory results; drowsiness comes on, and soon perfect stupor. The effect is mild and gradual, not the least sign of a *stadium excitatorium*, so disagreeable in chloroform. This death-like stupor was prolonged, according to the strength of the dose, as far as 18 hours; upon awakening, the animal appears in full possession of his faculties, and at once feeds.

This anæsthetic is applicable, it will appear in cases of insomnia from general suffering, mental excitement, and even in cases of insanity, where it has already been successfully tested. Though it can not be expected to supersede either chloroform or morphine, differing from both in its effects; we may confidently predict for it a wide and important field of action, and American physicians will certainly not be behind hand in giving chloral a fair test.

So much, until I shall be enabled to send you Dr. L.'s publication.

Respectfully,

GEO. J. ENGELMANN, Stud. Med.

NEW OPERATION IN DENTAL SCIENCE.—Reported by Q. L. Adams, D. D. S.—An operation was performed in this city during the months of May and June, 1869, by Dr. C. E. Blake assisted by me, which is new in dentistry, and a description of which will be of interest to those in pursuit of dental science.

The gentleman upon whom the operation was performed, had been wearing a superior denture of artificial teeth, and having worn the remaining inferior teeth very much away, nearly to the margin of the gums, the four first inferior molars and second right bicuspid having been removed several years previously, the remaining portions of the dens sapientiæ had been forced very much forward.

May 13th—Applied the spray of sul. ether to the left dens sapientiæ, and when sufficiently benumbed, cut into the nerve cavity, which was but a slight distance, and extirpated the nerve with small barbed broaches, designed for the operation, the sensation of pain being very slight. Owing to business engagements, the case remained under attention.

May 20th. After preparing and cutting threads with a screw tap, inserted two screws of pure gold three-eighths of an inch in length, and one-eighth of an inch in diameter. As the posterior root extended back, the back screw had to be fitted in first and curved, to bring the upper ends of the two parallel, where the threads of the screws had been removed, and the two adjusted, filling up the threads and remaining space with Roberts' Os-artificial. The amount required was very little, as the screws nearly filled the orifice.

After the operation came a plate of pure gold, in thickness about twenty-nine by gauge, and one-sixteenth of an inch larger than the grinding surface of the tooth. Two openings were made in close proximity. The grinding surface of the tooth had worn down a little concave and uneven; the gold plate was therefore put on and tapped down with instruments and mallet, to fit the surface perfectly by annealing it up, and a hard plate for service, composed of platina and gold, one-eighth of an inch in thickness and nearly the size of the tooth, fitted to the first plate, with the opening deeply counter-sunk around the ends of the screws. They were then taken off, and the two plates soldered together. There was then placed on the under surface of the thin plate, and of the same size, sixteen layers of gold foil, so as to

make the adaptation impervious to the fluids of the mouth. The sharp corners of the tooth were then slightly taken off, in order to make a better fit, and to avoid any small fracture of the corners in the adaptation.

Everything now being ready and the usual precaution made to keep it dry, the compound plate or cap was put on in its place, and the upper ends of the gold screws were rivited down with the serrated pointed pluggers, and by the use of the mallet; and the remaining part of the counter-sunk cavity was filled with gold foil and sponge gold all solid and tight. The extended margin of the pure gold plate, together with the foil underneath, were then tamped down around the corner of the tooth. The perfect manner in which the plate of pure gold was tapped over and around the margin of the tooth, leaves no doubt of its security. About eight hours were consumed in the last operation.

May 24th. The corresponding molar on the right side was taken in hand, and the nerve pulp extirpated.

May 28th. A successful operation was performed similar to the first. Subsequently, three bicuspid, and one canine were treated and capped in the same manner, with the exception that but one screw was inserted in each fang—some of which, gold foil was plugged around the screws in the fang to secure a perfect fastening.

On completion of these operations as above described, there was not any uneasiness or pain experienced by the patient, except in the first bicuspid, on the right side, which had been treated for alveolar abscess eight years previously, and was quite sensitive and painful during the operation, but yielded readily by the application of an astringent wash, and in a few days was restored to its former tone of health.

The crowns of several of these teeth, some eight months previously, had been built up solid by the use of the mallet, with adhesive gold; but after a few months' use it was discovered that they were rapidly wearing away, caused by the grinding force and hard surface of the artificial teeth coming in contact with the pure gold. This suggested the operation of capping with hard metal as the most permanent manner of prolonging their use.

The above operations being new in the practice of dentistry, and having taken an interest in their performance, I take the liberty to give them the name of Compound Cap Restoration.

HYPERTROPHY OF NAILS AND BONE.—In *Virchow's Archiv* is recorded by Professor Friedrich, of Heidelberg, the case of a shoemaker, 26 years of age, in whom the nails had grown to a prodigious size, those of the middle finger measuring nearly an inch, while that of the thumb was a little less, and the nail of the great toe somewhat more than an inch and a half in length. Eight years back he observed an increase of size of one foot; the enlargement extended to the leg, and two years later the same remarkable growth appeared in his hands. On examination, the enlargement was seen to be referable to the bones, and by degrees every bone in the body became similarly affected. The teeth escaped change, as did the trachea, but the cartilages of the pinna and the epiglottis were greatly enlarged. His skin was somewhat indurated, and the muscles soft and flabby. A brother, aged 22, exhibited a similar tendency to hyperostosis, which had commenced four years previously. Reference is also made to a case mentioned by *Sancerette* of a man who had increased in weight fifty-nine pounds from the mere growth of his bones in bulk, the soft parts, in the meantime, having become considerably wasted.

ORGANIC SYNTHESIS.—The last number of Liebig's *Annalen* announces the fact, that the direct transformation of the acids of the fatty series into corresponding alcohols has been effected by *Linnemann*. It was accomplished by the action of sodium-amalgam on anhydrous acid. This important discovery supplies the missing link required to pass step by step up the ladder from the simplest alcohol (wood-spirit), up to the highest, wax alcohol.—*British Med. Journal*.

CHROMIC ACID.—Dr. E. Magitot (*Bull. Gen. de la Ther.*) especially recommends chromic acid in the affection, known as "alveolo-dental osteo-periostitis." He also advocates it in all forms of stomatitis, aphthæ, and other ulcerations of the buccal mucous membrane.

Editorial.

USE OF OS-ARTIFICIAL.

THE object of the faithful Dentist will ever be to enlarge the sphere of his usefulness, and to accomplish this he must bring to his aid whatever of methods and materials may be made available. The use of os-artificial as a covering for exposed pulps has been fully described by some who early employed it for this purpose. The method proposed in this description, and since employed by many in the profession, is simply the covering the orifice of pulp exposure by the os-artificial, bringing it in contact with the exposed pulp. In many cases the pulp is so susceptible to the action of the zinc chloride, as to take on inflammation, become painful and devitalized, following which will be the usual train of circumstances attending such conditions. Such a result may ordinarily be averted by preventing the contact of the escharotic. This may be accomplished by either of two or three simple methods, first, by placing carefully over the orifice of exposure a small thin piece of Hill's stopping, or even gutta percha softened by heat, so as thoroughly to protect the pulp from the contact of the zinc chloride.

A more perfect covering, and one that will certainly occupy all space, may be made by a coating of collodin, or a thick solution of gutta percha and chloroform, this is preferable to the former. A thick covering of the solution is placed over and around the orifice of exposure, and the chloroform may be almost instantly evaporated by throwing into the cavity a jet of warm air. If there is an excess of the covering it may be trimmed off. The cavity after being perfectly dried by the warm air jet is ready for the os-artificial, which should have as great consistence as the proper manipulation will admit. The cavity in all cases may be completely filled, and if a gold filling is to be made, the os-artificial will cut away to the proper point.

Instead of using the solution for a covering, as suggested, a small pledget of cotton moistened with carbolic acid, or any other agent indicated may be placed on the orifice of exposure, and then the cavity filled as before. Another method of protecting the exposed pulp from the action of the zinc chloride is cauterization by nitric acid, after which the os-artificial may be directly applied, and will seldom, if ever cause the slightest pain. Os-artificial can not be relied upon for permanent fillings, except to some extent in certain cases. We regard it, however, as invaluable for the purpose already mentioned. The extent to which the os-artificial should be excavated for filling with gold, will be determined by the size and depth of the original cavity. In all cases, however, sufficient excavations should be made to admit of a firmly attached, and well adapted filling.

In a shallow cavity there will be a mere lamina of the primary filling, while in those of greater depth, one-third to two-thirds of the cavity may be filled by it. Os-artificial of the best quality only, such as will become very hard, should be used for this purpose. It then affords an excellent foundation for gold filling. We doubt not, that with proper care, as good gold fillings may be made upon a base of this kind, as upon dentine itself, providing, always, that the walls of the cavity are of dentine and are sufficient to guarantee a good support. The os-artificial should, in no case, extend to the orifice of the cavity.

In teeth the pulps of which are gone, with a large cavity, pulp chambers and canals of roots, all to be filled, may be treated upon the general plan we have indicated, with an assurance of success equal to any other.

After the most careful preparation of the whole case in the usual manner, the canals in the roots should be filled with gold, then fill the pulp chamber and decayed cavity with the os-artificial, then excavate this to the proper extent and fill with gold.

There are two or three advantages accruing from this method of operating, especially in extreme cases, that are quite apparent upon the mere statement, and the first is where there are living pulps the ease and facility thus afforded of introducing gold fillings without a possibility of the slightest injury to the pulp. Another is the entire protection of the pulp from ther-

mal changes, thus placing it in as nearly its original condition as it seems possible.

Again, in those large and very prolonged operations, as heretofore performed with gold only, involving excessive fatigue to both patient and operator, the work, by the method we have suggested becomes very much less laborious and fatiguing to all concerned.

It may be said, this is a matter of no consequence; but it is a matter of very great importance when we consider that some of the very best men in our profession have become broken down and worn out by the excessive labor and fatigue involved in prolonged and tedious operations. Our experience in the methods indicated above runs through about four years, with no other indications than those of the most desirable character. T.



WORSE THAN THE WICKED FLEA."

"They tell us of the Egyptian asp,
The sting of which is death;"

AND the Divine revelator saw a vision of locusts that "had tails like unto scorpions, and there were stings in their tails; and their power was to hurt men five months." But it has been reserved for these later days, and for this newest profession to note an event in the way of stinging, so terrible and so prolonged in its effects, that these oriental pests, whether of nature or revelation, are thrown into the shade, deeper than was the sun by the late eclipse. Nor do we speak of the tarantula; for tradition tells us that its poison is eliminated by the dancing of the victim. But in the melancholy cases under consideration, though the poor patients have frisked around considerably, they are not in the least improved, but the symptoms are quite as malignant as when the sting was fresh. Worse than the asp, then; for death soon comes to the rescue. Worse than the locusts; for "their power was to hurt men five months," while the venomous monster under contemplation seems to have power to hurt almost as many years. And, stranger than all, it has been regarded as perfectly harmless, till the occurrence of the sad cases referred to.

Those who attended the Chicago meeting of the American Dental Association, in 1865, and who read the journals afterward, will recollect that the two members who carried on the meeting were stung by a drone—stung, too, while they were kindly feeding him on “royal jelly,” for the purpose of changing his sex, that he might be crowned queen of the hive, and become the happy mother of a countless progeny. As in many other cases of blood poisoning, the sting seemed to pervert both the mental and moral characters of the victims. It was difficult for them to refrain from talking nonsense, and apparently still harder to tell the truth, especially when speaking of a friend who tried harder, perhaps, than any other to remove the sting. And, now, after a lapse of four years, these symptoms are manifested as strong as ever, as we have learned from a recent number of the *Dental Cosmos*. In their ravings they speak of one feeble individual “forcing” an entire association, making out a fearful case of rape, unparalleled, and likely to remain so till some diabolical dwarf outrages an army of Amazons.

In many cases of chronic blood poisoning the victims become cowardly; but these poor fellows are brave. They are not afraid to attack a man who is a thousand miles away, especially if they know he will not find it out for a month or two, and more especially if they think he is likely to stay away. And they find it as hard as ever to tell the truth about him. Indeed they have made a total failure, if the report is correct, and it probably is; for the reporter is a prophetic character, described in the second clause of the eighth verse of the seventh chapter of Daniel, as follows: “Behold there came up among them another little horn.” Being more familiar with slang than with science, he has been careful to preserve all their twaddle, regardless of its personal and unparliamentary character. We could not expect even a prophetic reporter to omit anything tending to injure the reputation of one he had been hired to villify when supposed to be dying. Hence we have no complaint. As “Nip” is dead, “Snarler” must be allowed to growl and snap, to his heart’s content.

W.

EDUCATIONAL.

OUR Dental Colleges now soon begin their annual sessions ; and we trust with such appreciation, sympathy and assistance by the whole profession as shall stimulate and make glad the hearts of those engaged in these enterprises of toil and anxiety. No one who has not been engaged can fully understand the feeling of responsibility and anxiety that attaches to the office of teacher, especially in the Dental profession ; when so much is to be taught that is new, and for which there is little or no precedent—processes and modes that have not been settled by ages of experiment and demonstration.

Indeed, it has hitherto been the case, that so far as teaching the branches constituting Dentistry a specialty is concerned, every one has had to mark out a course for himself ; or do what was about as difficult, select and collate from the entire field of Dental literature, and elsewhere too, whatever might bear upon and be made available in the particular branch taught.

The constantly recurring change in modes, processes and operations, adds still further difficulty to the work of Dental teaching. Every few months proposes, and very often effects some material and important change, in the application of principles, or methods of operation.

To keep up with the changes and improvements in the profession, requires constant energy, vigilance and industry, far more than one who merely sits down and receives what comes along, would imagine.

The work of the faithful Dental teacher is one of great toil and responsibility ; and one who does not appreciate this, is not yet fully prepared for the work.

It is a matter of serious consideration whether the instruction that is given shall result in the increase or decrease of human suffering.

It is always a grave matter to give advice in things pertaining to human welfare, and a much more serious matter to educate and prepare those who are to deal with human suffering.

A Dentist through false teaching may be made a blunderer who goes along through a life time, making mistakes, the accumulated results of which are productive of untold misery to

thousands, while he, who has been correctly taught—brought up in the right way—goes forth to his life work with an assurance of ability to mitigate pain and suffering, whenever found in his legitimate sphere. If these things are true, can it be sufficient to run at random over a general course, without fixing most permanently correct foundation principles?

Then let all engaged in teaching in our specialty see to it that nothing shall be wanting in the perfect fulfillment of a trust committed to their charge. T.



WE have received a communication from parties signing themselves, FORCEPS, ELEVATOR, ROSE PEARL BASE, and GOLD AND SILVER, relative to some parties practicing Dentistry in this city (Cincinnati) in violation of law.

Now, it is the business, and the duty of any and every one knowing of such violation, to report the same to the Prosecuting Attorney, or to the Grand Jury, giving the names of witnesses, and the matter will doubtless be attended to ; or, if these parties fear to do this, let them give the names of the parties and witnesses, together with facts to some one who has interest and manhood enough to see that the law is executed. We doubt not it will be an easy matter to find many such. Each member of the Board of Examiners have just as much interest in the execution of the law, and responsibility in the prosecution of its violation, as anybody else, and no more. They were not appointed to institute prosecutions. But let us have the law executed promptly and fully. T.

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Original Communications.

INTRODUCTORY ADDRESS TO THE 24TH ANNUAL SESSION OF THE OHIO COLLEGE OF DENTAL SURGERY.

BY PROF. A. M. MOORE.

GENTLEMEN:—Called by the Board of Trustees of the Ohio College of Dental Surgery to fill the chair of Clinical Dentistry in the corps of teachers, I appear before you this evening at the request of my colleagues to address you on the occasion of this, the opening of the 24th course of lectures in the College.

Unused to public speaking, I shall throw myself on your kind indulgence, while, for a short time, I call your attention to a few thoughts hastily thrown together, and deemed of importance and worthy our consideration at this time.

But, before I proceed, permit me to call your attention to a brief view of our position, past and present, and compare it with its surroundings.

It is healthful at all times, and in all the circumstances of life, to review the past, whether the cause has been pro-

gression or retrogression. If the first, it inspires a spirit of determination to make still farther and higher efforts ; if the latter, it will beget a spirit of regret for the past, and a zeal for the future, that shall atone for its neglects.

A quarter of a century ago, and Cincinnati was not what she is to-day, in any respect we may view her. Her borders were limited, her commerce restricted, her merchants contracted in their means. The canal and river, with comparatively few and small boats carried all the produce of her merchants and manufacturers ; and as in these respects, so in all others, whether of education, science or the arts. How is it to-day ? Her borders are enlarged to such an extent that it is seriously contemplated to bound them only by the principal lines of the county, while her population has increased to a fabulous extent. Her commerce is scattered among all the nations of the earth, and all parts of the world are made tributary to her prosperity. Her merchants are merchant princes, her rivers are covered with boats mammoth in size, and adapted to the wants of commerce and travel. Her railroads enter from all directions ladened with the rich productions of the soil. The busy hum of industry and manufacture, the fostering care of education in the extensive schools and colleges and beautiful churches ; her observatories, her libraries, art and literary associations, conspire to make her, indeed, the "Queen City of the West." She gives liberally of her means for the development of the resources of the country around her. She extends her arms to embrace the whole continent, by offering to give ten millions for a railroad to Charleston and the South, and as much more for a direct way to Norfolk and the East. The lone ferry-boat has given place to the proudest achievement of modern times, the architectural skill, beauty and workmanship of which commands the respect of the world. It was in this early period of which we speak, in the history of this great city, that it entered the minds of a Taylor, the Allens, a Cook, and a few other kindred spirits to organize here an

institution to elevate the standard of Dental education in the West. It was an experiment fraught with interest and hazardous in its nature. There was, at the time, one college located in the East, and to sustain another, though being located in the West, was a matter of great solicitude with its founders; but they counted the cost, and having put their hands to the plow determined not to falter, and thus this college edifice was erected at a heavy expense to its founders.

The twenty-three classes of graduates who have scattered abroad over the world, and this meeting to-night, all attest the wisdom and energy of its founders. And here, to-night, in the person of your honored Emeritus Professor and President of the Board, stands the one who yet guards and helps to sustain that which his own hands helped to form, and his wisdom to conceive. And, if this institution, with its present enviable reputation, with which he is honorably connected is not honor enough, then we grant him the higher honor of first conceiving and publishing the idea of the Atlantic telegraph.

In the year 1845, the year in which this college was founded, Prof. Taylor, in an address before the American Society of Dental Surgeons, in the city of New York, made use of the following remarkable language:

“In what an age we live! The sluggish onward trot of steam’s propelling power suits not this go ahead generation. But with the lightning’s flash they press on to greatness, beneath, above, around, and pressing in at every pore, an agent stands ready for our bidding. As quick as thought, it carries thought through illimitable space, and reports with truthful fidelity every word and sentence. With one foot on the western shore of the Atlantic, while the other ready to stride the mighty ocean, and land with the latest news instant in London. Scarce can you count the ticks which make up a moment of time, before the circuit of the earth is done.”

If that is not the Atlantic telegraph forshadowed, it is not now in operation.

Of such men were the early founders of this college. And as they may have passed away either from active duties of professorship or board of control, their mantles have fallen on men of like spirit with whom success was the only object, aim and determination.

To-day the Ohio College of Dental Surgery, under the control of the several Boards of Trustees who have from time to time controlled its destinies, and under the auspices of its body of stockholders who have pledged themselves and their stock on the altar of its success, stands forth among the several Dental institutions of the country as second to none.

The object of this College being the elevation and advancement of our specialty, let us inquire by what means this can best be accomplished. And here let me remark, that the medical profession is proverbial for its warlike propensities arising from the fact, that while most other professions can settle their differences by reference to books of standard reputation in their profession, it is one solely of opinion, founded on symptoms very nearly resembling each other, and in many cases entirely impossible to draw the line of difference until death. This doubtless, is the cause of most if not all the serious difficulties which arise in the medical profession, and each has a right to contend for the correctness of his diagnosis until ultimately and surely settled, (life and death being the issue) each has a right to assert his as the most *correct*.

Notwithstanding our specialty is closely allied to medicine, we have marked symptoms, and may, if we are skillful, diagnose with mathematical precision. For this reason harmony should pervade our ranks. Therefore, to attain perfect success, there must be first a perfect harmony between the Board of Trustees and the entire corps of teachers in all that affects the interests of the College.

The Board of Trustees is composed of gentlemen members of the profession and eminent as such, from four different states, all interested as stockholders, and zealous for the

good name of the College, and the dignity and success of the profession. These gentlemen, thus circumstanced have, with perfect unanimity, adopted a course of study full and comprehensive, and have called to fill the several chairs (with the exception of your speaker), gentlemen known and acknowledged as among the most worthy and successful teachers.

This great object having been so happily attained in the wisdom of the Board, their intercourse with one another should be harmonious and peaceful. They should be kindly affectionate one to another—in honor preferring one another.

In the manifest wisdom of the Board, the chairs have been so amicably arranged that in teaching each one is independent of the other, and, at the same time depending one upon the other. Like the organs of the human body they form a perfect whole; yet take away any one, and the harmony and perfection of the machinery is destroyed. These dependencies and courtesies strictly observed, our intercourse will be pleasant in the present, and happy in the retrospection; our efforts will be rewarded with rich success, and all, whether board, teacher, stockholder, student, or friend will rejoice in the happy fact that circumstances and destiny had united our fortunes.

A second means of success in our enterprise is, that we must cultivate a generous intercourse with the medical profession, whether in their colleges, or in the ordinary walks of private practice.

It is in the memory of many of us, when the arrogant disciple of Esculapius was wont to thrust his tongue in his cheek in derision of our new-born profession. But those times are happily past, and the days of charlatanry are rapidly passing away from our view. We stand forth to-day, a profession of acknowledged merit, the equal in everything that renders either branch worthy the favor or regard of the other.

The days of specialties are fully upon us. Surgery, medicine and obstetrics are all branches of the one, and Dental

surgery is acknowledged by all as a distinct branch of the same.

Some of the most brilliant feats of modern surgery owe their perfect and entire success alone to the aid of our art. These several branches have now become co-workers in the great work of alleviating the sufferings of mankind, each in its legitimate sphere performing an important part, without which, success would be regarded more doubtful and uncertain. This being the case, how important it is that there be full and complete harmony between the gentlemen who fill the several ranks of the different branches of the *one* great profession.

The third means of obtaining success in our undertaking is by a proper interest in, and intercourse with the students. No two individuals in the class have the same cast of mind, the same habits, the same physical developments. Coming from different sections of our country, each brings with him his peculiar habits and manners. These different classes must be treated with respect by their teachers; not sustaining them in any habits which should be condemned, but winning their confidence and esteem by giving good and wholesome advice. It sometimes happens, that a student who first seems dull and plodding, calculated to weary the patience of his teachers suddenly emerges from his dullness, and becomes one of the brightest ornaments of his profession. A mother's approving kiss made West all he ever attained as an artist. And instances are not rare, in the reading of most of us, where unkindness and cruelty smothered real genius. While one kind word struck a spark, that in its bright effulgence dazzled the world of science and art.

Our intercourse with them must, therefore be pleasant. Our labor profitable to them and agreeable to ourselves, and when the time transpires, and they are to separate from these hallowed walls, they may be a blessing to their adopted community, an honor to themselves, and a lasting glory to their *Alma Mater*.

Finally, gentlemen of the Board, our library and museum must be enlarged, and filled with all that can possibly tend to their more extended usefulness. Our means of instruction must be greatly increased. Our building enlarged to meet the increasing necessities. Our chairs of instruction divided and increased, that in each branch the utmost means of instruction, theoretical and practical may be given. There is no standing still! We are now in the front ranks! The mighty tide of universal progress comes rolling behind us. Onward we must proceed.

I have thus far, in accordance with the design of this address, spoken of matters and things in general—of the glorious progress and present condition of our profession as an art, and a science, let me now, in conclusion, speak to the young men entering this College.

It would be absurd in me to ask what has brought you here? The place in which we are assembled is a sufficient answer. The object is to prosecute your studies under new auspices. To avail yourselves of new means and opportunities for extending and perfecting the knowledge you have brought with you. Many of you never were in a Dental college, never performed a dissection, nor witnessed a chemical experiment. You enter now upon a new life. The office of a Dentist, with here and there an exception, offers comparatively few facilities for the acquisition of a knowledge of a science so vast as that of ours. In a well conducted course of lectures more may be learned in a single month than in the two years ordinarily spent in the private office. There are numberless principles in anatomy, chemistry, materia medica, and metallurgy which can only be taught by an appeal to demonstration such as no private office can supply.

To-morrow morning, bright and early, you will buckle on your armor of industry. Begin your work with earnestness, like men determined. Surmount all difficulties—fulfill the great mission as honest diligent students. At first the way may seem difficult—your arduous duties will weary and per-

plex you, but day by day your progress will become easy and thus step by step you will steadily mount up higher and higher the steep hill of science. When, at length, standing upon its lofty summit, you may leisurely and calmly survey the majestic scenery around and beneath you, with the proud consciousness of having done your duty.

We your teachers too, who, like yourselves, once sat upon hard, backless benches in quest of knowledge. We too, now, will be students with you. With our torch in hand we will accompany you in all your journeyings, point out the way, assist in removing obstacles, and thus, working and laboring together, share your toils and pleasures.

Although it will be the duty of each of my colleagues to inform you of the best method of studying his own particular department, yet I can not refrain from referring in a few general terms to the subjects which will especially engage your attention during the brief session upon which you have entered.

To anatomy you should give special attention, not learning from books alone, but from nature; tracing out, scalpel in hand, every important structure, normal and abnormal, true and false, and thoroughly photographing it upon the mind; and in carrying out your dissections you will often be led to realize the truth and force of the words of that man of patience, "Man how fearfully and wonderfully made;" or that other and more poetical, "Strange that a harp of a thousand strings can keep in tune so long."

Chemistry, one of the elementary branches, can only, as your able professor will himself inform you, be learned in the laboratory; like anatomy, which can only be learned in the dissecting room, or operative Dentistry in the chair. While chemistry is the most abstruse and difficult of studies, it at the same time is the most sublime and fascinating—one which is better calculated to establish a closer relation between man and his Creator than perhaps any other, inasmuch as it associates him with some of his sublimest creations.

In the study of *Materia Medica*, you will learn how greatly our science is indebted to this department, for the control of diseased action, and under the guidance of your able teacher you will learn what estimate to place upon the more important articles which are used in our specialty.

Operative and Mechanical Dentistry are so closely allied, so intimately interwoven, that they constantly trench one upon the other. Some of you may make good operative Dentists—possess all that fine manipulative skill and superior judgment that crowns the skillful Dentist with his success, and not attain to the highest degree in Mechanical Dentistry, and *vice versa*.

The teachers who preside over these departments will spare no pains to qualify you for the arduous and responsible duties of practitioner—the great aim of all your studies and energies.

Clinical Dentistry will constitute a special object of attention. Every opportunity will be embraced to illustrate the principles enunciated in the didactic course. The clinics of this institute are proverbial for their numbers and variety of material, and you can not, if you give it your proper attention but be benefited.

I have said nothing thus far of the studies of physiology and pathology. In these you have a ready teacher, and interesting studies. These branches will constantly lead you step by step on and up, and with anatomy and chemistry will furnish you a ready key to their interesting and seductive branches of Dental science.

Thus, gentlemen, you see what is before you. Remember, “success can only be securely built upon the solid block cut from the quarries of truth and science.” “*Nil sine sua ore*” is the motto. Work then systematically and steadily. Fidelity to the cause you have espoused is your first and important duty. Honor it then; exult in its origin, its dignity and grandeur—in its power of doing good. The knowledge you acquire while within these walls is your capital

stock upon which you will realize in proportion as it is appreciated in the market in which you operate. Par value is good, but to be profitable it must give you a margin.

It has been sneeringly said that a young man who is good for nothing else is good enough to be a Dentist. There never was a more erroneous assertion. In none of the learned professions is a higher grade of talent and mental culture required than in ours. The fact that all Dentists are not greater is no proof that they are destitute as a body of talent and genius.

Distinction great and permanent, such as elevates the character of a nation, is the prerogative of the few, and not of the many, and measured by this standard the Dental profession has just cause to be proud of its exalted position in the scale of intellect and true greatness. Mankind have little idea of the knowledge that is required to successfully perform the multifarious operations coming within the proper jurisdiction of the Dental operator.

They lose sight of the fact that the human body is a living machine composed of numerous organs and tissues, each invested with important functions, and all united by the closest and most intimate relationship.

Finally, gentlemen, in conclusion, let me say to you, spend your time wisely when without these walls. "Remember the Sabbath day to keep it Holy." Be strong in your resolves to withstand temptation. Do not disregard the admonitions of parental affection and friendship. The last words of a fond and doting mother whispered into your ear, as she sobbingly pressed your hand, and imprinted her last kiss. "My son, shun the ways of evil, and neglect not the church and your Bible."

ODDS AND ENDS.

Gentlemen of the Mad River Valley Dental Association:—

It is not my intention to write an essay, but merely to have (through the mediumship of my pen) a little social chat with you, on a few odds and ends of subjects, that may be interesting to the society.

I never fully appreciated our society meetings until after coming to the "far west," where, cut off from all professional association, I have to fall back entirely on my own resources. But, gentlemen, I am going too fast. Once a month a society (not named yet) meets in my office. It consists of the REGISTER, COSMOS, DENTAL O & L. and myself. There is always a full attendance, and the meetings very interesting and instructive. The convocations last a month, and adjourn *ad interim* for clinics, and for refreshment and sleep.

Even in this new country we are not free from those pests of society, the *traveling quacks*. There are no less than six of them within ten or fifteen miles of this place.

For patrons, I have all classes and nationalities, with a very fair sprinkling of refined, educated people, who appreciate what God has given them, and use every means in their power to preserve their natural teeth. It is a pleasure to work for the latter class, and I trust the time is not far distant, when we will have every inhabitant of our glorious country dentally educated to the importance of caring for their natural organs, instead of allowing them to be "yanked out" by impostors, to be replaced with those, which, at the best, are very poor substitutes for what nature has given us. Start the "Dental Tracts" gentlemen. It is a splendid idea, and if some one does not make a move in this direction soon, I shall have to commence it, by writing short articles for our home papers.

There has been a number of accidents reported lately, caused by the explosion of vulcanizers, and it occurs to me

that they may be occasioned by not getting the collar securely screwed on the boiler. (I have reference to the Hay's machine.) There is more danger to be apprehended when using a new thick packing, which will only let one or two of the screw threads of the collar catch. This is the weak part of the machine, and those using these vulcanizers would do well to observe the following directions in putting them together.

Turn you collar on the boiler as far as possible, and then screw the nuts on the top of the collar well down to settle the packing, now loosen the nuts so that they do not protrude through the lower part of the collar, and you will find the collar will turn down enough to make one or two more of the threads catch. Repeat this two or three times if necessary, and you will make your vulcanizer much safer.

We have all, I suppose, at some time or other, experienced trouble in making full lower dentures satisfactory to ourselves and to the patient, in those cases where there is scarcely any ridge, and the muscles so prominent as to require something weightier than vulcanite to keep the plate to its place—where cheoplastic is too burdensome, and the patient not able to pay for continuous gum work. To remedy these difficulties, I have successfully used a combination of cheoplastic and vulcanite, which makes a very neat job, and gives the operator the advantage of being able to regulate the plate to any desired weight, by making the cheoplastic heavier or lighter. In making this work, I first cast a cheoplastic base, taking care to make it heavy enough (for it is easily made lighter). Then with an old excavator, sharpened like a graver, I gouge the upper surface of the plate in opposite directions till it has somewhat the appearance of a rasp. These gouges are all that is necessary to hold the two bases together. Now put wax on the plate and take the bite and grind and arrange your teeth as for any vulcanite case.

In putting in the flask, only immerse the metal to the top of the rim in the plaster in the lower part of the flask, and then proceed as with an ordinary vulcanite case. It is very

little trouble to make these cheoplastic bases, and give you the satisfaction of knowing whether your plate will fit before your work is finished.

And now, gentlemen, if anything I have written proves of the least benefit or has been in any way interesting to you, I shall feel amply repaid for my effort. Hoping at some future time to meet with you again, I remain

Yours fraternally,

JOHN BLAKE.



OS-ARTIFICIAL IMPUGNED.

"To me, there is nothing reasonable in the idea that oxychloride of zinc can induce the formation of natural bone over exposed pulps."—Contributor "Miscellanies," October REGISTER.

There are many things on this sublunary sphere beyond the erudite comprehension of finite mortals; and the paragraph quoted above is only another illustration of this fact. "To me," it is always a healthy sign to observe a man's reasoning powers in the natural process of exercise, if, per-adventure, he fails to reconcile his ideas. To have incompatible elements clog or retard the genial and even-tenor of one's ideas, tends to excite sympathy—commiseration.

Desiring to aid this "Miscellaneous" contributor to a more favorable consideration of what he deems irreconcilable, it will be the aim of this paper to clear him up a little.

Among active members of the Dental profession in the discussions of our societies, and in the pages of our periodicals, os-artificial has received no small share of attention, and it was presumed that every practitioner was tolerably well informed with regard to its properties and merits. But amid all this blaze of intelligence there seems to be one, perhaps there are more, whose reason is so nicely poised that he can't be made to kick the beam, forego all scruples, and believe in the paradoxical os-artificial as a pulp protective.

A thing is reasonable or unreasonable just in proportion as our information is co-extensive. If our acquaintance be meager or limited; if we have not pushed our inquiries to a point of thoroughness, and thereby enable us to see clearly, then our account of things unreasonable will always be in the ascendancy. It is more than probable the contributor of "Miscellanies" has never patiently and carefully noted operations made of os-artificial over exposed pulps, beyond those made by himself. It is neither wise nor prudent to condemn an agent which, in the hands of dextrous and skillful operators, proves excellent in results. Such a course is too sweeping and immodest.

That there are multiplied cases where oxy-chloride of zinc has been placed over exposed pulps, and under this protective covering, in the course of time, an osseous deposit was thrown out at the point exposed, there is an abundance of testimony to the support of this fact.

The objections to os-artificial lie chiefly in the supposed escharotic property of the zinc chloride which is assumed to destroy the pulp, or lulling it into a repose whence there is no waking. If such were the fact, and no real difficulties of a periosteal inflammation, and the color of the teeth well preserved afterwards, what harm has it done? Will root filling answer any better purpose? But it should be remembered zinc chloride in the form it is used by us, is diluted, and scarcely possesses any escharotic property. When combined with the oxyd and applied to the exposed pulp without any intermediate protection, there is a slight tinge of pain following which lasts for a short time only. And this difficulty may be avoided by applying gently over the bare pulp after excavation is made, a coating of styptic colloid, which has a soothing and conservative influence. The positive failures in the use of os-artificial is more in the Dentist than in the agent. Nor is it reserved for a large number to achieve success while manipulations are so carelessly or heedlessly made. It requires a nicety of hand, and a delicacy of touch to pre-

vent irretrievable injuries, that we may expect to hear this agent condemned and in disfavor. Its popularity is steadily gaining. Its uses are daily multiplying. Who would be without it? Who does not feel proud daily, to see his failures rise into successes by its use. Let us return our gratitude to those who are our benefactors in bringing this material into Dental practice, and showing us how to use it.

W. F. M.

REVIEW.

BY J. G. WILLIS, M. D.

EVERY member of the Dental profession who desires to be classed among the learners in the science and art of Dentistry must have an honorable pride in the rapid advancement made by the profession in the last few years.

This onward and upward movement is largely due to the various Dental associations throughout the United States, each vying with all the others, to show the most substantial progress in not only that particular knowledge useful to Dentists, or specialists, but also in all departments of science; a knowledge of which is necessary to all persons before they can consider themselves learned. The influence these associations exert on the profession at large for good is beyond calculation.

Among them all, however, the American Dental Association stands pre-eminent, and the report of its proceedings is watched for eagerly by such as are not permitted to attend its annual sessions, for the reason that it is considered in the light of a Supreme Court of Dentistry, in which are tried, by the most rigid scrutiny, all new theories advanced, and all new methods of practice are by it thoroughly investigated, rejecting of the former, such as are not supported by facts, and accurately weighing the merits of the latter by the statistics of success and failure. A judgment of a court of

last resort is final, right or wrong until reversed by the same ultimate authority.

The learned body of which I am speaking does not, I think, claim an authority quite so arbitrary as that. Therefore, while its opinions are entitled to great weight, they are also legitimately open to criticism. From the manner in which the business of the Association is conducted, it must be held responsible for every proposition introduced, that is received without objection, no matter how erroneous the same may be. It becomes the duty, therefore, of every member of the profession, to see to it, that he carefully reads the published report of proceedings, and if he discovers what he believes to be unsound doctrine, or a proposition contrary to facts, it is his bounden duty, through the journals to prove the doctrine unsound, or the proposition untrue. There are several vulnerable points in the proceedings as published, but I will only at this time consider one proposition—made and repeated—which I believe to be untrue.

It was stated by a member, as eminent for his skill in Dentistry, as for his attainments in general science. That the compound generally known as oxy-chloride of zinc, was in fact a hydrochlorate of zinc. I am not more surprised at his making the statement, than that, among all the savants of the profession there assembled, there was not found one bold enough to doubt the truth of the statement. The author of the same may, therefore, consider himself as an authority whose correctness it is temerity to question.

There were some very pointed remarks made by an eminent member, as to the wonderful ignorance of mankind at large on the subject of chemistry. I do not think that he meant to include himself and fellow-members in that comprehensive term, "mankind at large;" but their remissness in letting a statement in opposition to generally accepted facts, pass unnoticed is open to two explanations, which every person may make for himself.

Oxy-chloride of zinc is a compound occasionally used for

filling teeth, and is made by adding to an oxide of zinc hydrochloric acid which has been saturated with zinc. The question for us to consider then, is whether it is properly called oxy-chloride of zinc. I propose to answer this question, making use of symbols which all persons at all acquainted with chemistry will understand.

It is a fact in chemistry, that all acids when not themselves decomposed unite only with the oxides of their several bases. Thus sulphate of soda is SO_3NaO , if it were otherwise the compound would be a sulphate of sodium, and would be indicated by SO_3Na . The proper termination of this class of compounds according to the accepted chemical terminology, is *ate*, as phosphate, carbonate, muriate (or hydrochlorate). Hydrochloric acid is composed of hydrogen and chlorine, and is thus expressed by symbols, HCl . This acid will not unite with zinc in any form, without being decomposed, as is readily shown, thus, HCl added to pure zinc (Zn) produces a *chloride* of zinc and hydrogen is liberated. Thus $\text{HCl} + \text{Zn} = \text{ClZn} + \text{H}$, the latter being free of course escapes. HCl then is actually a chloride of hydrogen, and, as in the above experiment, zinc is substituted for the hydrogen, and the latter is set free, the compound can only be a chloride of zinc. But the same decomposition of the acid takes place when the *oxyd* of zinc is used as a base. $\text{HCl} + \text{ZnO} = \text{ClZnO} + \text{H}$ the hydrogen in this case also by a decomposition of the acid being set free, and the other element of the acid uniting with the zinc forms the chloride of the oxide of zinc, or oxy-chloride of zinc. The reason of the decomposition of the acid in these experiments is because chlorine has a stronger affinity for zinc than for hydrogen. That the above changes are different from those where hydrochlorates are formed, is readily seen, thus $\text{HCl} + \text{AmO} = \text{HClAmO}$, which is hydrochlorate of ammonia. In this case, there is a direct union between the acid and the base without decomposition of the acid.

That the reaction between HCl and ZnO is correctly sta-

ted is abundantly proved by the fact, that to procure hydrogen in large quantities HCl and Zn are constantly used. Sometimes, however, *sulphuric* acid is used instead of HCl, and it may be instructive to notice the difference in the reaction which takes place when it is thus used, all other things being the same. Sulphuric acid is represented thus, SO_3HO and the reaction is as follows viz: $\text{SO}_3\text{HO} + \text{Zn} = \text{SO}_3\text{ZnO} + \text{H}$, the latter (hydrogen) being set free. These changes are explained thus: the *water* (HO) of the acid is decomposed, the oxygen uniting with the zinc forming ZnO with which the acid unites, and leaving, as above stated, SO_3ZnO and free hydrogen. SO_3ZnO is the *sulphate* of zinc, the hydrogen having been obtained in this experiment from the *water* of the acid without any decomposition of the acid itself.

It is unnecessary to pursue the subject further, as what has already been said proves conclusively that in accordance with the nomenclature of chemistry, the compound under consideration is *properly* called oxy-chloride of zinc. It has been said "that what comes out of the mouth, and not what goes in," defiles the soul; and herein it differs from chemistry, as only such elements as remain *in* a compound, have any influence in determining its physical characteristics; such as are given off during the reaction, have no effect on the compound whatever. And as the hydrogen of the hydrochloric acid is given off and set free, the compound can not be correctly called a *Hydrochlorate*, and as only *chloride* of zinc is left to unite with the oxyd of zinc, it can not correctly be called a *chlorate*, as this latter is always formed by a union between *chloric acid* and some base, as $\text{ClO}_5 + \text{HO} = \text{ClO}_5\text{KO} = \text{chlorate of potash}$.

Proceedings of Societies.

EAST TENNESSEE DENTAL ASSOCIATION.

The East Tennessee Dental Association met pursuant to adjournment, at the Lamar House, Knoxville, Tenn., Oct. 20, 1869, at 3 P. M.

The Association was called to order by the President, Dr. John Fouche, who ordered the minutes of the last meeting to be read, after which several new members were elected. The increase in members, both upon the rolls and of the members present, show the growing interest manifested in this body and its objects. An interesting paper on Hemorrhage after Extraction, was read by Dr. Wm. F. Fowler—the various remedies and means for arresting the same, were discussed, after which the Association adjourned to meet next morning at 8 o'clock.

SECOND DAY.—The morning was occupied by a very interesting and instructive clinic by Dr. J. T. Cazier.

The rest of the day was consumed by discussions upon the various methods of treating superficial decay, removing salvary calculus, etc. Also, the different modes of filling teeth.

THIRD DAY.—A clinic also was held by Dr. John Fouche, in the forenoon which was witnessed also with the greatest interest—the Association feeling greatly benefited by the clinics of the two mornings.

Two essays were read by Dr. Wm. H. Cook, one on the Necrosis of the Alveoli, the other on Tumors of the Mouth. Both were highly entertaining and instructive.

Dr. Cazier drew up, and presented to the Association a bill memorializing the Legislature of the State of Tennessee, to pass the same for the better regulating the practice of Dentistry in Tennessee.

Drs. Fouche, Cazier and Cooke were elected to represent the Association at the next meeting of the American Dental Association, which convenes in the city of Nashville. Also, Drs. Fowler and Speck were elected to represent the interests of the same, at the next meeting of the Southern Dental Association at New Orleans.

Several members having to leave, the Association adjourned after electing the following officers for the ensuing year, to-wit:

President, Dr. J. T. Cazier; *Cor. Secretary*, Wm. F. Fowler; *Rec. Sec. and Treasurer*, Wm. H. Cooke.

ALUMINUM.—The scientific editor of the *Independent* says: In his *Journal of Applied Chemistry*, Professor Joy says that a few years ago a pound of aluminum could not have been purchased for \$200, and even at that price there were few manufacturers hardy enough to take the order. At the present time it can be readily manufactured for seventy-five cents, if not for fifty cents a pound; and the probabilities are that we shall soon be able to obtain it for a quarter of a dollar. Its principal use thus far is in the manufacture of aluminum bronze, or alloy of copper with ten per cent. of aluminum, which possesses remarkable strength, tenacity and elasticity.

Aluminum will prove a very important and useful metal; useful in the manufacture of surgical instruments and appliances, etc., and we are glad that it has at last reached the inevitable point of a material reduction in price.

GUN-COTTON explodes when metallic sodium or metallic potassium is brought in contact with it. The amalgams of these metals do not produce the same effect. Finely divided arsenic requires percussion before it explodes cotton.—*Druggist's Circular*.

Selections.

INFLUENCE OF EDUCATION.—Dr. Brakenridge, in an article in the *Times and Gazette*, supports the following thesis:

The wider the range of the education, the more vigorous will be the health, and the greater the range of circumstances over which it may be preserved.

Were the constitution limited to one constant unvarying set of influences, health would be incompatible with the slightest deviation from this. The provisions of nature secure a considerable variety in this respect. In the rotation of the seasons we have a constant succession of changes which check the tendency of the body to fall into a too narrow series of habitual activities. The width of education thus afforded renders it possible to move with comfort and safety to considerably distant localities at seasons when their climate approaches in character to one or other of the seasons in the native climate. Thus we may indulge in a change to colder places during their summer if it is not colder than our winter, and to warmer places during their winter if it is not warmer than our summer. It is evident that the extent of this capacity for change must be regulated by the range of conditions to which the body has been accustomed, being greater or less according to the variability or equability of the developing climate. The development brought about by any one locality must, however, be, at the best, very limited compared with man's capacity. Doubtless the craving for change which man feels with regard to many things is not without its physiological importance.

Such deep-seated yearnings as the love of travel, and the great inventions to which, for its satisfaction, it stimulates him, hint that this local development, even where the balance of functional power is best preserved, by no means represents the highest state which he is capable of attaining. He possesses, in a rudimentary condition it may be, but none the less truly, powers which, were they all fully educated, might render him cosmopolitan. Greatly increased rapidity of loco-

motion is already doing much to extend the range of his physiological education, and, in addition, the blending of different races which is thus favored, and the consequent intermarriages of those possessing constitutions widely different, will hasten the higher development of the whole race, For when we have the organs which in the one parent are highly trained, uneducated in the other, and *vice versa*, it is reasonable to suppose that the positive and not the negative, properties of each parent will have the greater tendency to be transmitted to the offspring; hence it will possess somewhat of the special powers and capacities of both. Thus the offspring of aboriginal and European parents in Hindostan is said to "inherit from the native parent a certain adaptation to the climate, and from the European a higher development of brain." (Combe's Constitution of Man," pp. 194). Many examples might be adduced to show that mixed races of men surpass in vigor and in the tendency to multiply the parent races from which they have sprung. It must to a considerable extent be regarded as the explanation of the high vigor of the Anglo-Saxon race that in it there are blended together so many constitutions, originally very differently educated, and consequently possessing widely different powers.

NURSING SORE MOUTH.—This troublesome affection is spoken of in these terms by Dr. I. P. Wilson, in the *St. Louis Medical Journal*. Dr. Wilson is of opinion that it is the result of an impoverished condition of the system.

The child in embryo and in infancy is supported by its mother. The mother's system is continually being drained from the day of conception to the time she weans her child. She has not only her own body to maintain during gestation and lactation, but her offspring must be supplied with the bone, muscle, and nerve producing materials, even though her own system be starved for the purpose. If the system is robbed of any of its constituent parts, the body must suffer. The bones, e. g. contain from 48 to 59 per cent. of the phosphate of lime, and the enamel of the teeth from 81 to 88 per cent., hence an immense supply of these lime salts is required to maintain the mother, and to build up the bony tissues of the child. Stomatitis materna is nearly always accompanied by extreme sensitiveness of the teeth, and a

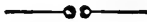
softening of the tooth structure, showing a starved condition of the entire osseous system. The lime salts have been appropriated for the development of the bony tissues of the child, while the exhausted mother is suffering the consequences of an impoverished system.

This disease is more prevalent with pregnant and nursing females, because they demand a far greater supply of those life-supporting elements; but it is not this class alone that suffers from this condition. The non-pregnant female who is living on a poor, weak diet, is liable to suffer the same consequences. The male sex, too, may have sore mouth of the same character, but it is always given some other name, and attributed to some other cause.

In my practice as a dental physician I have been called upon to treat this disease, and when it has not progressed too far, I have only found it necessary to recommend a good, nutritious diet, with plenty of exercise in the fresh air and in the sun. If the entire alimentary canal is affected, tonics should be given, and a general constitutional treatment may be required.

One or two kinds of aliment will not keep the system in repair. A variety is necessary. Milk and eggs are said to be the only articles of food that contain all the required elements. The lime salts abound richly in the unbolted wheat flour, while fine flour is almost entirely destitute of this element.

Let the mother's system be furnished with a sufficient amount of the bone, muscle and nerve producing materials to build up the tissues of her child, in utero and during infancy, and "stomatitis materna" will rarely if ever exist.



THREATENED DEATH FROM CHLOROFORM.—The *British Medical Journal*, of Sept. 11, says: Recently, at King's College Hospital, London, there was a very narrow escape from death by chloroform. The patient was a healthy man, aged 30, who was to undergo the operation of removal of a tumor from the front of the leg, by Mr. Henry Smith. As the inhalation proceeded, the patient began to struggle so violently that it required the assistance of several dressers to prevent him from throwing himself from the table. He, however, became insensible to pain; and Mr. Smith pro-

ceeded with the dissection, but was compelled to desist, in consequence of the violent movements of the patient. The chloroform was now entirely suspended; but, notwithstanding this, the man's face became suddenly livid, then changed to a deep purple color, respiration and pulse completely stopped, and death had apparently taken place. Mr. Smith at once thrust his finger to the top of the windpipe, got forward the tongue, and assistants commenced artificial respiration by the movements recommended by Dr. Silvester. The naked chest was vigorously flipped with a wet towel. For a brief period these measures seemed to produce no effect; but after a short time there was a slight improvement in the complexion, when the efforts were redoubled, and all were delighted to find the apparently dead man slowly respiring. In two or three minutes more, the man had so far recovered that Mr. Smith was able to complete the operation, although, of course, no chloroform was exhibited. In some remarks after the operation, Mr. Smith referred to the narrow escape of the patient, and said it illustrated the danger which will occasionally attend chloroform, however carefully given, more especially in those cases where its exhibition is followed by a great amount of struggling. It was necessary to be particularly careful with it when this occurred; he had seen other narrow escapes exactly under the same circumstances.

CHLORAL—A NEW ANÆSTHETIC.—Monsieur Liebreich has presented a memoir to the Academie des Sciences, which contains some interesting details concerning a new anæsthetic he has just discovered. An important difference between this new chemical compound, which he calls "chloral," and all other substances used for the purpose of producing insensibility, is, that it is administered by absorption instead of inhalation, and this enables the dose applied to be measured with greater accuracy. On passing into the system it becomes decomposed into formiate of potassium and chloroform, and produces more perfect insensibility than either ordinary chloroform or ether. Its use is said to be unattended by any danger. In a very painful and difficult operation lately performed on a woman M. Liebreich applied chloral with perfect success, the patient being kept under its influence for over two hours.

CARBOLIC ACID AS AN ANTISEPTIC.—*To the Druggists' Circular*: Thinking that some of the readers of the *Circular* may be benefited by a description of an experiment that I tried on the body of a lady seventy years old, who died July 18th, induces me to submit the following to your notice, and, if thought worthy, to a place in your columns.

The corpse was simply washed with a solution of carbolic acid—strength, one part carbolic acid, cryst., to eighty parts water. No injection was made, nor cut, nor incision on any part of the body. After the body had been washed with the solution, the skin became soft and pliant, the joints perfectly free, the expression good and natural, and the lips resumed a florid and life-like appearance. Parts of the body that had turned dark before the solution had been applied, gradually recovered their color. The corpse lay in a room facing the sun, and although the thermometer stood at 85° F., not the least smell or odor was perceptible. That carbolic acid is the best article for preserving bodies for a few days previous to burial there can be no doubt, and is of too much importance to be cast aside. Hoping you will give the above a place in your columns, I remain,

Your ob't servant,

J. FRED. JENNINGS, Apothecary.



THE AUTHOR OF THESAURUS.—Dr. Peter Mark Roget, who died in England on Friday, at the age of 90 years, was a Swiss by origin, and his mother was a sister of Sir Samuel Romilly. He stood high as a physician, but is best known by his valuable “Thesaurus of English Words and Phrases,” and his contribution to the Bridgewater Treatises on “Animal and Vegetable Physiology.” He wrote various mathematical papers, and contributed largely to the medical and philosophical reviews. His great work of English words and phrases was revised and enlarged by Barnas Sears in 1854, while he was Secretary of the Massachusetts Board of Education, and published by Gould & Lincoln. It has passed through several editions since, and though it was the first work of its kind, the completeness of its plan and its fullness of details left little to be supplied.—*Boston Evening Transcript*.

ADVERTISEMENTS OF SPECIALISTS.—*Mr. Editor*:—I have been requested to call attention to and refute the following, which appears as an editorial note in the report of the American Medical Association meeting, published in the June number of the *Richmond and Louisville Medical Journal*:

“Sichel, Donders, von Græffe, &c., placard the streets with their advertisements, and, in Edinburgh, specialists have their specialty engraved on their door-plates.”

In this section of the country perhaps too many of our profession have been abroad to require me to do more than in general terms to assert that the above allegation is erroneous as regards the distinguished ophthalmic surgeons mentioned; though local authorities and custom require or permit some procedures in Europe not tolerated here.

The American Medical Association, at its late meeting, adopted the following resolution:

“*Resolved*, That private handbills, addressed to the members of the medical profession, or advertisements in newspapers or in medical journals, calling the attention of the professional brethren to themselves as specialists, be declared in violation of article one, section three, of the Code of Ethics of the American Medical Association.

The American Ophthalmological Society declares, in its Constitution, “No member of this Society shall attach to his name, in any public announcement, the title of oculist, or any similar title, or shall announce in print that he gives special or exclusive attention to special practice.”

This law is strictly carried out, and two members were dismissed from our Society for violating it, at the late meeting at Newport, in July.

Boston, Sep. 20, 1869.

Respectfully,

B. JOY JEFFRIES, M. D.



A NEW SILVER ALLOY, under the name of *alliage tiers-argent*, containing two-thirds of nickel and one-third silver, has been introduced by Alf. Jaloureau and sold by Musset (116 rue Rivoli), Paris, which challenges in many respects alloys of greater cost. It is used for plate especially; and as it possesses far greater hardness than richer alloys, and yields in like proportion to the chisel, will no doubt, meet with success. The price per kilo. is 90 francs, and, on returning, 75 francs are allowed.

THE FOOD OF A HUMAN BEING.—The following estimate of “what goes in at the mouth” of an epicure, is startling, if true: From an article recently published we extract the following estimate of what a noted English epicure ate during the 70 years that he lived: 10 oxen, 200 sheep, 100 calves, 200 lambs, 50 pigs, 1,200 fowls, 300 turkeys, 150 geese, 400 ducks, 260 pigeons, 1,400 partridges and quail, 600 woodcock, 1,400 snipe and other small game, besides 500 hares and rabbits, 40 deer, 120 guinea fowls, 10 peacocks, and 260 wild fowls. In fish, 100 turbot, 140 salmon, 220 cod, 260 trout, 400 mackerel, 400 flounders, 200 eels, 150 haddock, 400 herrings, and 10,000 smelts; also 20 turtles, 30,000 oysters, 3,500 lobsters and crabs, 300,000 prawns, shrimps, sardines and anchovies. In fruits, 150 pounds grapes, 50 pineapples, 2,000 peaches, 1,400 apricots, 240 melons, and some hundred thousand plums, green-gages, apples, and pears, and millions of cherries, strawberries, currants, walnuts, chestnuts, figs, almonds, etc. In vegetation of other kinds, 25,575 pounds weight; about 2,334 pounds of butter; 684 pounds of cheese; 21,000 eggs; bread, 14,000 pounds; of salt and pepper, 1,000 pounds; of sugar, 4,500 pounds. In liquids, 49 hogsheads of wine, 1,394 gallons of beer; 584 gallons of spirits, 5,394 gallons of coffee, cocoa and tea, 1,364 gallons of milk, and 2,736 gallons of water.—*Phil. Med. and Surg. Reporter.*

How did the teeth stand it *Mr. Reporter?*—ED.



TOOTH-BRUSHES.—There has lately been introduced into the market a porous form of vulcanized india rubber, called india-rubber sponge. It is proposed to substitute this material for bristles in the manufacture of tooth-brushes. A piece of india-rubber sponge is fixed to a handle of bone or ivory, and ridges are formed on the surface of the spongy material. Other brushes are made in a similar manner by fixing spongy vulcanized india-rubber to a rigid back or handle; or, in some cases, as for horse-brushes, a rigid back only is required. In some cases, the spongy india-rubber is checkered or cross-grooved.

COMPARATIVE MORTALITY OF FIVE LARGE CITIES FOR SEPTEMBER.—We take the following from the *St. Louis Democrat*. Notwithstanding the palpable errors in the estimate of the population of some of the cities named, the statement is of interest. Giving to Cincinnati the population to which she is properly entitled in the estimate, it will be seen that her death rate is far below that of either of the other cities mentioned:

I have obtained from the boards of health of the following cities the mortality for the month of September, 1869:

New Orleans,	population,	200,000,	deaths	461.
Cincinnati,	"	230,000,	"	298.
Boston	"	240,000,	"	497.
St. Louis,	"	240,000,	"	646.
Chicago,	"	252,000,	"	814.
One person died of every 309 inhabitants in Chicago.				
"	"	371	"	in St. Louis.
"	"	484	"	in Boston.
"	"	773	"	in Cincinnati.
"	"	433	"	in New Orleans.

HENRY S. CHASE, D.D.S.



A MODEL DOCUMENT.—The following is a literal transcript of a document written by a practicing physician in this city, and offered as evidence in a case in the Police Court recently. If the writer's knowledge of medicine is as extended as his orthographical acquirements, the profession would do well to hunt him out:

"I was called on to go and see Samel snapinsca on the 11 september i found him in bead and was brused very bad his ribs on the left side was varey badly brused and the left lung apeers to be ingered from the bruises and there was severil bruises on his body besides."—*Detroit Free Press*.



THE EARLIEST WRITER ON CARBOLIC ACID.—We are indebted to Dr. Lemaire, of Paris, for the earliest publications on carbolic acid. In 1861, three essays on its uses were published by him, and in 1863 he wrote an interesting monograph on its uses in surgery and medicine.

WEIGHTS AND MEASURES.—The metrical standard of weights and measures, according to a recent report to the Emperor Napoleon III, from the Minister of Agriculture and Commerce, is gaining ground in every country, and has been officially adopted by Belgium, Holland, Italy, the Papal States, Spain, Portugal, Greece, Mexico, Brazil, Chili, New Granada, and the republics of South America. An English commission, too, has declared in favor of its introduction into Great Britain. The minister proposes that a commission should be appointed for the purpose of delivering to foreign countries, metrical standards which may serve to render the system general.

We shall be glad to see it adopted in this country, and especially in the drug trade and the writing of prescriptions. Exact science in all its branches has recognized the superiority everywhere.

AN improved compound for welding has been recently introduced in Belgium. It consists of Iron filings 1000 parts, borax 500 parts, resinous oil 50 parts, and sal-ammoniac 75 parts. The materials are mixed, heated, and powdered; the surfaces to be welded are dusted over with the composition and then brought to a cherry-red heat, at which the powder melts, when the portions to be united are taken from the fire and joined. Another composition for the same object consists of 15 parts of borax, 2 parts of sal-ammoniac, and 2 parts of cyanide of potassium. These constituents are dissolved in water, and the water itself afterwards evaporated at a low temperature.

A NEW STYPTIC COLLODION.—M. Carlo Paresi gives, in the *Gazette de Turin*, the following recipe:—Collodion 100 parts, carbolic acid 10 parts, tannin 5 parts, benzoic acid 3 parts. Agitate until a perfect solution is formed. It is of a brownish color, gives a pellicle similar to ordinary collodion and instantly coagulates blood.—*Indian Medical Gazette*, July 1, 1869.

LIBRARY OF THE AMERICAN MEDICAL ASSOCIATION.—We are glad to learn that the excellent Library Committee of the American Medical Association is meeting with success in collecting books towards the formation of a great Medical Library in connection with the American Medical Association, which now has an abiding place at the capital of the country, where its archives can be deposited. The committee, which consists of Dr. Robert Reyburn, Librarian, and Dr. Joseph M. Touer, have already collected about two hundred volumes. We suggest to our readers to make contributions to this collection. Anything sent to us for the purpose will be forwarded.—*Med. and Surg. Reporter.*

PROF. BOEHM—DISSECTION WOUND.—The *Union Medicale* of September 7, states that at that date Prof. Boehm, of Berlin, had probably ceased to live. Eight days before, he met with a slight dissection wound, of which he took no notice. Two days after, the hand became swollen, and fatal symptoms soon set in. The distinguished victim contemplated his fate with the utmost tranquility of mind.

A DEFINITION.—The compositor at this office finds *Traumatic* defined in Johnson's and Worcester's Dictionaries "A medicine to heal wounds—useful for wounds." Dunglison, as we know, gives a different meaning. The true interpretation it may prove desirable for medical disputants round about to settle.

HYPODERMIC INJECTIONS.—Much has been said of late in reference to the hypodermic syringe in various painful affections, of its great success in the relief of suffering, and as well as the ease and facility with which it may be employed. I have never used it till within the last few weeks, but have already learned to value it as one of my most useful and reliable agents. The following case may be of some service to such of my professional brethren, who like myself, have known it only by hear-say. This, with the fact that I have never read of its employment in a similar case, is my excuse for sending this article.

On the morning of October 31st, Drs. Whitaker, Newell, and myself, were called to attend Michael Stokes, who had been run over by a steam fire engine. We found our patient in a state bordering on collapse, and after ordering stimulants had him removed to his residence. After removing his clothing, and making a careful examination, we found an oblique fracture of the right femur, with a comminuted fracture of the lower extremity of the tibia of the same side. The tibia and fibula of the left limb were fractured transversely in the upper third.

In reducing this complicated injury it was necessary to take some measure for the prevention of the acute suffering which would naturally accompany our manipulation. His physical condition rendered chloroform inadmissible, and we had recourse to hypodermic use of sulphate of morphia. We accordingly injected gr. $\frac{1}{4}$ in the flesh part of the *fore-arm*; the effect was seen in three minutes, when we reduced the fracture and applied the splints to the right limb without any complaint on the part of the patient. Another gr. $\frac{1}{4}$ was then injected with the same happy result, the two doses being sufficient to keep him quiet during the whole dressing, which required some three hours.

The important points, to my mind, are:

1st. We were enabled to remove the pain, when chloroform was contraindicated. 2nd. The amount used was not more than one-fourth of what would have been required if administered by the mouth, and the effect was almost immediate. 3d. Any anæsthetic, properly so called, would have required a special assistant for its administration and control.

I think that the above case shows that the "syringe" may be used with advantage in cases of fracture and kindred injuries, where chloroform is either inconvenient or contraindicated.

Millville, N. J.

H. C. SMITH, M. D.



FRACTURE OF THE SUPERIOR MAXILLARY BONE.—By Dr. R. H. McKay, A. A. S., U. S. A.—Prince Walker, a private of "I" detachment, 38th U. S. Infantry (colored troops), on duty at Fort Craig, New Mexico, was admitted into hospital August 24th, 1869, for injuries received by a hatchet or small "hand ax," in the hands of one of his comrades. He was

lying on his bunk at the time—feeling as he said quite unwell. His comrade and he had been quarreling that morning, in the course of which the patient accused the other of stealing. It appears that he brooded over the insult until he arrived at the determination to be revenged in a very summary manner, and to this end rushed into the quarters where the patient was lying, and struck him a powerful blow, evidently aiming for the head, but, probably, by the exertions of the patient to avoid the stroke, missed his mark, and struck him on the face; members of the company then interfered, and prevented a repetition of the blow.

The patient was brought to hospital, his wound washed and examined; the corner of the ax had grazed the frontal bone over the minor angle of the orbit, then descending upon the face quite close to the base of the nose, caused a very considerable flesh wound of the face. The examination was then continued to the inside of the mouth, when the full extent of the injury was more apparent. The bone was observed to be fractured from a point commencing between the central incisors in front, extending thence directly back along the course of the suture, between the maxillary bones, for about one inch in extent, thence curving backwards and outwards, terminated between the last bicuspid and first molar teeth.

This whole piece, including the teeth, was forced down into the mouth, the posterior portion of it a full half inch below its normal position, while the anterior portion was displaced to about half that extent. I experienced considerable difficulty in replacing the fractured portion, but after several unsuccessful efforts, succeeded so perfectly as to justify the belief that it would remain so without artificial means for its support.

The treatment consisted of cold water locally, until inflammatory action had ceased, then simple cerate dressing, observing the usual precautions of keeping the wound thoroughly cleansed. This, with perfect rest of the jaws, except so much as was necessary in taking liquid food, constituted the entire course of treatment. The fracture in the roof of the mouth healed very rapidly, so much so that in a few weeks time only a cicatrix served to mark the line of fracture. The wound upon the face still continues discharging a small amount of pus, with occasional spiculæ of bone, but the patient has so far recovered as to perform duty as cook for

the company, and only complains of want of sensation of the fractured part, which is not to be wondered at when we consider the amount of displacement that existed at the time of the injury. I think, too, that the discharge from the face is likely to continue for some little time, as of necessity there must be a very considerable amount of detached pieces of bone yet to come away ; yet the progress which the case has made thus far encourages the belief that perfect recovery, with perfect adaptability and use of the injured parts will speedily ensue.

A WORTHY FOUNDATION.—The Consumptives' Home, at Boston, which was established on September 28th, 1864, is an institution supported upon unusual principles. There is no fund endowment or known pecuniary provision whatever existing for the support of the Home. No human friend has ever made any promise, express or implied, to sustain the institution, which is supported entirely by voluntary gifts obtained through *prayer*. The only means of soliciting money or aid in food, clothing, or any of the necessities of life, have been the prayers of the founder and manager. The journal of this benevolent physician contains interesting accounts of the numerous occasions when the Home was reduced to the last extremity through the want of some particular article, and when that identical article was sent to the institution in answer to prayers for it. The Consumptives' Home was started with one house, but now occupies four buildings, the purchase money for which was raised in answer to prayer. The last report of the institution shows \$50,328 has been given by friends during the last five years, and \$20,105 during the past year.

The Home has since its opening accommodated 331 patients, and accommodated 165 patients during the year ending September, 1869.

A collection of twenty-five pins, very well made, has just been placed in the Louvre, Paris. They were found in the subterranean vaults of Thebes, and were made more than three thousand years ago, showing that the modern invention is only a reinvention.

PHOSPHORIC ACID IN ORGANIC NATURE.—In a recent number of the *Scientific American* it is remarked that the exudates of plants generally contain no phosphoric acid; at least such is the case with manna and gum-arabic. It is known that in exhausting the pulp of young roots with water, fibrin is obtained, which contains pectose and the incrusting substances. It follows, therefore, that the skeleton of vegetables owes its solidity not to the phosphates, as is the case with that of animals. The leaves that remain in the forests during winter yield ashes rich in iron, silica and lime, but free of phosphorus. It is also worthy of note that, although analysis has as yet failed to discover phosphates in the sea, the maritime plants contain considerable quantities of this substance.

Corenwinder, at least, has searched in vain for phosphoric acid in the water of the North Sea, as well as in the boiler sediments of vessels crossing the ocean. The pollards of flowers and the spores of cryptogams are rich in the acid of phosphorus; this being especially the case with the pollards of *Lilium candidum*. It is remarkable that the ashes of pollards and those of the semen of animals are nearly allied in their component parts, they being both rich in phosphoric acid.



KEENNESS OF THE SENSES.—Saunderson the mathematician, lost his sight in 1683—when only one year old—after a severe attack of the small-pox. But spite of his complete blindness, he gave himself up to the assiduous duty of the sciences, and finally lectured at the University of Cambridge, on mathematics and optics, with wonderful success. His sense of touch was exquisitely fine. Thus in a collection of Roman medals, he could distinguish the genuine from the false, although the latter were often so admirably counterfeited as to deceive those who examined them with their eyes. By the different feeling of the air on his face, he could tell when an object was placed before him. And his hearing was so accurate in seizing and appreciating the slightest sounds, that he could determine the height of any chamber into which he was introduced, and his distance from the wall.

SCARIFYING THE GUMS.—Dr. F. W. Hatch concludes an article on this subject in the *California Medical Gazette*, in these words :

1st. That while scarifying the gums in infancy is frequently of the most essential service in allaying nervous irritability, and relieving or warding off the early indications of cerebral congestion, the operation is not without danger, and like all others upon young children, should be performed only for just and sufficient causes.

2d. That it should be resorted to only on the most urgent indications, in systems already reduced by previous disease—pale, anæmic, and under the influence of mercury. That under these circumstances, it is better to risk the excitement due to difficult dentition than to resort to a remedy which may result fatally; in other words to bear and counteract the ills we have to deal with, than encourage others we know not of.

3d. That in the case referred to, the subject of this paper, there was an hemorrhagic diathesis, probably acquired as one of the effects of mercurial influence.

4th. That the condition of the system, especially of the blood, in similar cases, is such, that they must almost of necessity prove fatal.



BROMIDE OF POTASSIUM PUSHED TO ITS FULL EXTENT.—

The following narrative, not by a member of the profession, is given in the *Brit. Med. Journal*. The narrator is the patient :

It was in June, 1867, that I began taking the bromide; the daily dose being then, I think, about twenty grains. It very soon caused the cessation of the “lapses” (*petit mal*); and in order to make sure, and stop the greater evil also, I went on increasing the dose (hardly with Dr. M.’s permission and yet not against his orders) till at length I should think I must have been taking seventy-grains a day, perhaps sometimes eighty. The first symptom of overdoing the thing that I noticed was the profound and yet disturbed sleep into which it seemed to throw me. I always awoke with a mental struggle and effort, not knowing at first where I was, or what had become of me; in fact, as I told Dr. M., I seemed to

have gone too far down into the gulf of sleep. Side by side with this, but, of course less noticeable to me, was the enfeebling of mental power.

A little page in my accounts, which I should usually prepare and balance in half an hour, took me two or three evenings' weary work. But the worst thing was the tendency to talk "Mrs. Malaprop" English, substituting one word ending in "tion" for another, in a most provoking and yet ludicrous way. I had once to write some letters reminding people that their subscriptions were due, and I had the misfortune of having my letters (I think one or two of them) brought back to me by a clerk, who pointed out to me that I had written "contraction," or some such word, instead of "subscription." I can not just now remember any more instances; but this difficulty in getting and keeping the right word (though the right idea was present to my mind) is very vividly, and not without humiliation, present to my recollection. Soon, of course, my wife and partner saw the change in me, and attributed it to the right cause. I went from home, and for a time dropped the medicine. In a week, my host said, "Why you look ten years younger than when you first came." The stoop in my figure, the slow uncertain speech, and other bad symptoms, especially the heaviness in the eyes, were gone, and I felt quite myself again. I am still taking the medicine, but now never exceed forty grains a day, often taking only twenty; and, if I find the slightest touch of the "Mrs. Malaprop" difficulty, I reduce the dose at once.



THE PRACTICE OF MEDICINE IN OREGON.—A subscriber in Oregon writes as follows: In some respects this is a good country to practice medicine in. The prices are almost double those charged East, payable in coin, but no attention is paid to medical ethics; each one does what he considers right in his own eyes. There is a Medical School at Salem—the capital. The number in attendance is small, and the graduates few, and not very well qualified. The physicians and surgeons of the regular school, in the cities of Portland and Salem, are well qualified, and will compare favorably with those of any eastern city. They are generally graduates of English, New York and Philadelphia schools.

Correspondence.

KNOXVILLE, TENN., Oct. 7, 1869.

DR. J. TAFT.—*Dear Sir:* In the REGISTER for September, under the head of "Another Experience," you give the results of an operation on a tooth of yours, of some nine years standing, etc. You say that on the removal of the plug some odor was perceived, which was "occasioned by the leakage through the imperfect border." Did you ever see a dead tooth which did not emit an odor? You may fill a dead tooth in the most perfect manner, and remove the plug in three months after the filling, and I will guarantee that you will find the odor not only in the tooth, but in the filling removed.

I am very glad that you have written this experience, as it will enable us to ventilate this subject a little. And let me start out by saying, that it is not so much the amount of gold which is put into a cavity, (and I would have all put in that can be got in) as the way it is put in. It is very evident that you have a large amount of gold put into that cavity, and, at the same time it is equally evident, that the gold was not perfectly packed against the walls of the cavity or it would not have leaked.

I hold (and I suppose you do the same) that if a cavity is perfectly filled it will stop the decay. If I did not firmly believe this, I would never fill another tooth. Would you?

I have seen many fillings as large as the one in your tooth, which have been in a much longer time without any leak, and yet, they have not so much gold in them as your's has, and now the question comes up. If your tooth was first filled with No. 4 or 6 (which is softer and more easily adapted to any surface than a higher number) and failed for want of perfect adaptation to the walls of the cavity, how will it

turn out filled with No. 20? My opinion is, that if Dr. A has not much improved as an operator, his last filling will fail sooner than his first.

It is an easy matter to make hard fillings, but it is hard, very hard, to make them uniformly solid where they come in contact with the walls of the cavity.

Can this be done with high numbers of adhesive foils?

Can not No. 4 adhesive foil be made hard enough to resist mastication?

I used some Nos. 20 or 25 gold foil (soft) twenty-five years ago, (which I made myself by rolling it between copper plates) and it worked soft, for so thick a foil, but not soft enough for me to be assured that it was solid around the margins of the cavities. Some of those plugs are in yet, but they are hard looking customers. "Let us make haste slowly."

Your friend,

J. FOUCHE.



EDITORS REGISTER:—I wish to say to the readers of the REGISTER that we are going to have the best meeting of the Ohio State Dental Society (which commences on the first Tuesday of December, next,) that we have ever had. This I say, not merely to get you to come to help make numbers, but that you may be able to avail yourself of the benefits of this meeting, for we are going to have a regular feast of good things, as all the good Dentists of our Association will be there, chuck full of such gladening information as will make us feel happy in our profession. Our worthy President, Dr. Horton, will be there to call us to order in his usual genial and happy way that will make it a pleasure for us to stop our greetings of each other after a year's separation, and give our attention.

Dr. Taft will be on hand with his heart overflowing with kindness toward all honest Dentists, and the greatest desire to give all who aspire to high rank in their profession, that knowledge which he is always ready to impart in the most

instructive manner. We hope also to have with us once more our old and much honored chemical friend, Dr. Watt, who will tell us just exactly what chemical effect may be expected by some new agent that may be introduced into Dental practice by Dr. Spellman. Dr. Palmer will have with him some of the best pointed pluggers now in America, in which he has developed his ideas of perfect pluggers. And Dr. Harroun will tell any who desire to know how the dumb may be made to speak. Dr. Blount is expected to be ready with a short dissertation upon office etiquette, which will be very pleasant when delivered with his usual gentle manner and smiling face. Dr. Keely will tell us about fine plugs. Dr. Herriot asking him questions, which will be expected to enthuse him upon the subject.

But we have not began to tell you what you will hear from Drs. Rehwinkle, Berry, Smith, Buffett, Butler, and a score of others who will be with us. But I will only say farther, *come*, and my word for it you will go home pleased and benefited, feeling more happy for your existence and better satisfied with your profession.

W. M. H.

TO WHOM IT MAY CONCERN.

The law entitled "An Act to Regulate the Practice of Dentistry in the State of Ohio," passed May 8th, 1868, provides in Section 1st, that any person commencing the practice of Dentistry in this State, after the date above mentioned, shall have a diploma from some Dental college, or a certificate of qualification from the State Dental Society; and Section 2d imposes a fine of from fifty to two hundred dollars for each violation of the provisions of this Act. Now, therefore, this is to notify all persons interested that the Board of Examiners of the Ohio State Dental Society will meet at the Neal House, in the city of Columbus, on Wednesday the 8th day of December, 1869, at 12 o'clock M., for the examination of all such persons as are desirous of commencing, or have commenced the practice of Dentistry, since the passage of the Act herein mentioned.

C. R. BUTLER, D. D. S.,
Cor. Sec.

W. P. HORTON, D. D. S.,
Pres't. O. S. D. Society.

Editorial.

BIBLIOGRAPHICAL.

A Treatise on the Disease and Surgery of the Mouth und Jaws and Associate Parts.

BY JAMES E GARRETSON, M. D., D. D. S.

We have received and examined to some extent this work, just issued from the press of D. Lippincott & Co. From the cursory examination we have made of the work, we must express a very high degree of satisfaction with the manner in which Professor Garretson has performed his work. From his reputation and known ability, however, a work of less merit would hardly be expected, though Dr. G. has certainly fulfilled the expectations and desires of the profession. It embraces a large range of observation and practical experiment, such as no other man, in this country at least, has enjoyed. It bridges over most completely the chasm heretofore so definitely marked between general and oral surgery.

The tendency of this book, wherever read, will be to elevate Dental surgery—to give to the Dentist an extended view of the domain of his operations. It is one of the very few works in our profession adapted to both student and practitioner. It will also be of great value to the surgeon and physician. It at once comes into the list of text books for colleges, and should have a place in the library of every Dentist, surgeon and physician. We commend the work because of its great value, and would not speak condemnatory because a few errors or lapses have crept in unawares. There is, perhaps, as few of these as was ever found in the first edition of so extensive and laborious a work.

For this work and labor of love, the profession owe Dr. Garretson a debt of gratitude that we trust they will not be slow to pay, so far as appreciation can do it.

We have not given a synopsis of its contents, feeling quite confident that every one who cares to know anything about it will procure the book, then enjoy it in all its fullness and richness. It may be had of any dealer in medical books.

T.

LIBRARY OF OHIO COLLEGE OF DENTAL SURGERY.

This library is being collected, arranged and put in proper form for the use of the Institution. It is desirable that this library shall embrace the entire Dental literature, so far as it can be procured, all text, standard and journalistic works, together with the principal standard works of medicine and surgery.

Such a collection will necessarily involve considerable expense, and we would here suggest that contributions of books or journals, dental or medical, will be thankfully received and acknowledged. The book or books in every instance, unless objected to by the donor, will bear his name.

We trust that at least some contribution will be received from every friend of the institution, and especially from every stockholder. Send on your contributions, gentlemen, don't be afraid of overdoing the matter. Quite a large number of books are already pledged. A fine library and reading room is fitted up in the college, where we trust very soon the student and practitioner will have an opportunity to consult any work pertaining to dental science or practice.

T.

VICE VERSA.

THE "Dental Office and Laboratory," in a complimentary notice of the Dental Register, gets the editors' names reversed from their usual order. This comes from straining his eyes recently in looking at an *os coccygis*, which had wandered away and hid itself in the front of the subject's thigh. Rest and goggles!

Mr. Editor. W.

EDUCATIONAL.

We have just received the Fourth Annual Announcement of the New York College of Dentistry, by which we learn that its session begins on the 15th inst.

There was, for the past five months, some serious embarrassment resting on this institution, which we are happy to know has been removed, and that it now enters upon its work with renewed

energy. We have always hoped and expected large things of this college, and was very sorry, indeed, to hear of its recent troubles; but, perhaps, it was just such a trial as is liable to, and so frequently does come, upon young institutions, to try the resources and test the strength of the enterprise. We trust that in the future there may be no interruption in its course of usefulness.

T.

PROGRESS.

THE formation of the "Southern Dental Association" was a long step in the right direction. That the members composing it, in spite of bad advice to the contrary, had the good taste to organize it as an auxiliary to the "American Dental Association," and thereby place themselves in active co-operation with the progressive portion of the profession throughout the nation, is very gratifying, and worthy of cordial and hearty commendation. Great good will be done by it. State and local societies will spring up all over the South, as is already evidenced by the formation of the State Society of Alabama, and others. We hope soon to record in our monthly bulletin, a society for every state and every city in the South, and to have our pages enriched with their contributions and proceedings.

W.

DENTAL LUMINARY.

A new edition of this little work for popular reading has just been issued, revised, and enlarged by the addition of ten pages of new matter. This consists of directions in the use of artificial teeth, a short article on the indications of good fillings, the code of ethics of the American Dental Association, and the law to regulate the practice of Dentistry in the State of Ohio.

This work we regard as the best thing upon the whole, for popular reading, upon the teeth, and the relations of the Dentist to the public, that we have seen.

The code of ethics, and the law, will certainly attract the attention and awaken the interest of every reader. And we would simply suggest to our professional brethren that no more

simple and effective method of conveying a knowledge of the status of our profession to the people, could be employed than the distribution of this or a similar work.

We will willingly supply it to any one who may wish it for distribution. It contains thirty-four pages, 16mo, and cost \$5.50 per hundred in plain paper cover, and \$7.00 per hundred in black enameled paper, gilt, with card upon cover. T.



THE NEW MASTERPIECE.

"Fur," said the Deacon, "'tis mighty plain
That the weakest place must stan' the strain
So the way to fix it, I maintain,
Is only jest

To make that place uz stong uz the rest."

And the Deacon's rule applies as well to artificial teeth; and we were reminded of this by comparing Dr. Samuel S. White's present style of rivets with former styles, and with those now in general use. Those rivets are philosophical models in their way, and their being inserted into the thickest part of the tooth, insures the strongest possible combination of porcelain and platinum.



OHIO STATE DENTAL SOCIETY.

The regular annual meeting of this body will be held at Columbus, on Tuesday, December 7th, at 10 o'clock, A. M., and continue in session probably two days.

We trust that this meeting will call together the entire available force of the profession of the State. There should be an attendance of two hundred, and there would be if there existed in the profession a proper interest for its progress and welfare. We have occasionally heard the excuse, "Oh I can't afford to go." The reply to such persons is, you can't afford to stay away, for if a man's professional ability is only able to just keep him from starving, the sooner he abandons the practice the better. Indeed, his neighbors can not afford to entrust such an one with the care of their teeth.

We regard it as beyond all question that he who will not avail

himself of the advantages derivable from professional association and influence that goes out from it, will necessarily fail to attain a medium standing as a Dentist.

What a grand impetus would be given to the profession if every good man in the profession would come up to these meetings, prepared with heart and hand honestly to do his part of the work.

Let no one be afraid to bring up his secrets, let no one hesitate to show his ignorance; the best way many a time to get light is to let it be known that we are in darkness.

The profession in Ohio occupies a most enviable position, one in which there is encouragement to work, the results of which can not be otherwise than an abundance of fruit. Great things have been accomplished here, and still greater are expected. Shall these expectations be disappointed? Matters of great and vital importance will come before this meeting for consideration, and it is desirable that the whole profession in the State, so far as possible shall take part in the deliberation of such questions as may come up. We regard this as by far the most important meeting of our profession that has ever been held in the State, and we trust that no one that has the real good of his profession at heart, will, for any slight cause, suffer himself to be kept away. Let every active member be on hand, and every one who desires to be an active member, and every lobby member, and visitors, let them come. It is a duty they all owe to themselves, to their profession, present and prospective, and to their patients.

T.



TO THE MEMBERS OF THE AMERICAN DENTAL ASSOCIATION.
—Section 5 of Article III. of the new constitution of the American Association, adopted at its last session is as follows: "Permanent members shall consist of those who, having served one year as delegates, and complied with the requirements of the Association, and shall signify to the Treasurer, a desire for permanent, membership." I therefore request all members who have not already done so, to signify at once to me their desire, whether they wish to be considered permanent members, that I may adjust my books accordingly. WM. H. GODDARD, Pres.

Cor. 4th and Green Sts., Louisville, Ky.

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Original Communications.

ANNUAL ADDRESS BEFORE THE OHIO STATE DENTAL SOCIETY.

BY THE PRESIDENT, DR. W. P. HORTON.

Gentlemen of the Ohio State Dental Society :

In again resuming business it is eminently proper that I make a few suggestions as to the needs of the profession in this State, I might say the profession at large, and which it may be in the power of this body to supply, or if not fully supply, at least put the profession in the way of obtaining for itself. I need not trench upon the rights or duties of the Corresponding Secretary or Executive Committee. They have well done their part in arranging the order of business and attending to our comfort and convenience during our sittings. These are very essential to facilitate our deliberations and enable us properly to consider and digest the work before us.

Neither do I wish in my official capacity to set up my dictum against the better or deliberate judgment of this body in any way. But only to call your attention to matters which need your earnest consideration aside from the regular

order of business, and by the aid of special or standing committees, to arrive at such conclusions as will tend to the enlightenment of the profession at large; the onward and upward growth of ourselves; and the record of which in future years we shall not be ashamed to look back upon, or have our successors look upon and call our own. The first subject to which I will call your attention is "The law regulating the practice of Dentistry in this State." The law was designed to promote the general good of Dentist and patient, and I am certain is a good one so far as it goes.

Perhaps it *goes* far enough to secure all needed rights to the profession and protection to the people, were it executed. But I am as certain that an influence emanating from those nominally in the profession is weighing down the law to such an extent that very few of their patients know that any law exists, much less one that will in any way afford them present or future protection. This silent opposition comes from men, most of whom never spent much time in studying that which they attempt to practice, and pretend to think it useless for others to be compelled to do what they were *not*, no matter who suffers at their hands, and the hands of ignorance in general, so long as they, the sufferers, pay their money freely, and do not complain too loudly of the kind and quality of work they receive in return. These practitioners (shall I call them) go upon the general principle that "when ignorance is bliss it is folly to be wise," either for operator or operatee. Without any attempt at argument in the premises I merely call your attention to the fact that I have learned of no prosecution under the law, while I have been informed that many are practicing in violation of its precepts.

The next subject that in my judgment needs your attention is "The Code of Ethics." Right at this point and upon this subject, I wish no misunderstanding, and will therefore say that it is not my intention to make a raid upon our code of ethics. On the contrary, I am personally in favor of a code in general, and this one in particular.

That a code of ethics is needed for the government of the members of our profession in their intercourse with each other, professionally, there seems to be no doubt in the minds of a large and respectable portion of its members. On the other hand, there are very many who, while in our meetings, say nothing against it, and thereby tacitly acquiesce in its provisions, when in their offices and in their daily walk and conversation, either silently ignore, loudly inveigh against, or openly and boldly put it at defiance.

There is another class who rarely or never enter our social or scientific meetings, and who, in the communities where they reside, are reckoned as members of our profession. This class last though not least, numbering fully one-half of those called Dentists, can not be easily reached either by human or divine laws. Many of these consider themselves so well born that they totally ignore the necessity of regeneration, either in a temporal or spiritual point of view, and believing themselves wise beyond what is written, make themselves fools, not, however, beyond the hope of salvation. All laws to be of much practical importance, must derive their essential and germinal principle from a consent of the governed, or at least a respectable majority of the governed. Unless that be the case, the law, however, just it may be, either is trodden under foot as a dead letter, or becomes an element of interminable discord and confusion.

Would it not be well, therefore, to devise some means by which this contumacious class may be reached? and can it not be done by such a revision of both the laws referred to, as that a large majority of those nominally in the profession may cheerfully partake of their full benefits? In doing this I would in no wise lower our standard an iota. On the contrary let its motto ever be "Excelsior."

The third topic to which I wish to direct your attention is the struggle that has been and is still going on between the profession on one side, and an over shadowing and, in some particulars, unscrupulous monopoly on the other. I need

not name the "Goodyear Dental Vulcanite Company," as most present have had too recent, and in many instances, too unpleasant reminders from the party to whom I refer to be in any doubt.

In what it is my purpose to present under this head, I shall not travel into the province of the committee appointed some three years ago, by a mass meeting of the members of this society and others, and charged with the duty of defending such members of the profession as complied with certain fixed conditions, and in accordance with the advice of its attorney, Col. S. S. Fisher, against the demands of this powerful monopoly. That committee will, without doubt, make a full and complete exhibit of what it has done, for your approval or rejection, as you may determine on final hearing. But the points I wish in particular to present are: First, Admitting that there can be at the present time no successful legal opposition to the claims of the Goodyear Company, the patents upon which these claims are based, expire in 1872, no very distant period in the future. Now, in carrying on a contest with your adversary there are at least two modes of warfare, which may be used separately or together, and either of which will give you almost incalculable advantage in its results viz: cut off his supplies, and then meet him in the field more than half way.

The first may be done by every Dentist in the nation, pertinaciously refusing to take a license from, or in any way pay tribute to this monster that stalks abroad like the very spirit of all evil, seeking a victim to appease the cravings of its rapacious maw. Whether this plan be feasible, or if it were whether it be advisable? are questions which I leave for you to decide. That it would be effectual in reducing the value of its stock to very low figures, in a very short space of time, there is little room for doubt.

The next move will be to prevent the renewal or any extension of the "Goodyear Patents," as far as their application to Dental purposes are concerned. I have already stated

that the patents upon which the claims of this company rest as far as the Goodyear is concerned, expire in 1872. There are two of these, one covering the process and the other the product. These should never be renewed or extended, and a tax of five dollars on each Dentist in the nation would afford ample means to prevent any such consummation. But if a successful crusade be carried on to that end there is no time to be lost. We must be first in the field, and with our armor brightly polished and fully adjusted, be prepared to "charge with all our chivalry."

Secondly, The Dental Vulcanite Company, after the expiration of the Goodyear patents, have to base its claims—in case the "Goodyear" be not extended—on the Cummings patent alone. This patent has been pronounced by competent lawyers to be possessed of no validity whatever. But as an effect against that it has the prestige in the "Weatherbee case," so called, of the opinion of one, at least, of the Judges of the Supreme Court of the United States. How far the hearing in that case was "exparte," I am not prepared to say. But that there were very important omissions in the testimony, especially on the part of the defense, there is no doubt in my mind, and I am of the opinion that most of the testimony which has arisen to the surface since the agitation of this matter has become so general, was not at the time of the hearing of the Weatherbee case, known to or within the reach of the defense. This testimony the profession can avail itself of in case coercion be resorted to on the part of the enemy. That legal coercion will be resorted to is as certain as that the present managers live, until in their opinion the proper time has come. Much reliance for success will be placed upon the fact that every Dentist who takes a license from the "Goodyear Dental Vulcanite Company" must subscribe to the validity of the Cummings as well as the Goodyear patent, or be debarred the privileges of either. How far the fact that these contracts were signed under "duress" will influence the Courts in favor of the defense, will be seen

when the time of trial shall have fully come and the question passed upon. But there is no principle of law more clearly established than that such a contract is null and void. That being the case then the fight will be on the merits of the question of the validity of the Cummings patent per se.

Now I would respectfully suggest that the Dentists of this State and the United States combine, at least one year before the expiration of the "Goodyear" patent, and have their forces well armed, equipped and drilled, and at the first intimation of danger, advance their whole line upon the enemies works.

In making these suggestions I would not advocate over haste or illy advised opposition. But that the profession see eye to eye, and with the utmost cordiality and fraternal feeling, each bearing his own burthens at the proper time with cheerfulness, and with shoulder to shoulder, in one solid phalanx march on "from conquering unto conquer," until the very spirit of patent-rightism as applicable to Dental purposes be like Noah's dove, unable to find a resting place for the sole of its foot upon the face of this whole earth.



MICROSCOPY OF A TOOTH.

BY S. P. CUTLER, M. D., A. E., D. D. S.

Prof. of Chemistry and Histology in the New Orleans Dental College.

A few days since I extracted a left lower molar tooth for a girl fourteen years of age. This tooth had been filled some three years ago, though not well. When I examined the remaining, though extensively decayed on all sides, except one, with an exposure of pulp and in an aching condition had been troublesome for some time.

On extracting the tooth, I as usual made an examination into its sanctum sanctorum to see what I could discover. I

first split open the tooth by driving a cutting instrument between the roots, and, as I expected, found apparently a normal pulp which was torn in too by the splitting of the tooth, and on further examination I found a nodulosa in about the center of the pulp, and on extracting the pulp from each root, which required unusual force, and on further examination of the rent pulp I found a long needle, shaped or aciculated spicula down in the root portion of each pulp, about the middle portion. I made a microscopic specimen, first of the soft pulp, with about the usual results, with an additional phenomenon, which I had long been in search of in vain, and now I may exclaim, *Eureka*; that is to say on the surface of the pulp membrane of one of the roots, to some extent, I discovered true conoidal epithelia projecting boldly up from the surface, about as close together or as far apart as the tubuli at pulp cavity.

I could not be mistaken in this case, as it was something I had long been in search of, but had never before clearly and distinctly recognized any thing of the kind, still I had entertained such ideas from analogy as all known surfaces of membranes are known to be covered with epithelia of some form or other. These epithelia I suppose, project up between the nerve fibrillar openings, and may be the true factors (if I may be allowed such an expression).

I had formerly conceived the idea that this was an exudation through these openings that I have often mentioned in former publications, but now there is *tertium quid* before us to deal with, and who shall decide. Only one portion of this pulp showed epithelia distinctly. I had almost lost hope of finding any, and was not in this case in search of any, hence it must be looked upon more as an accident than any sagacity on my part, but I hear Mr. Smith asking over the way why don't you give us your process of preparing your specimens, so that we can make the same discoveries, or so as to recognize yours? I simply reply to our friend that I scuttled the pulp by removal of the spicula

or nodules, then I placed the battered fragments between two slips of glass, with a little warm pitch, then placed it under the instrument, and you know the rest.

I will state here that I always have slips of glass in readiness, lamp and pitch in my office, and I make it an invariable rule to split open all teeth I extract, that have nerves in them, and at once place between the slips of glass, and in five minutes, even if in a hurry, and the specimen is ready for examination, which I generally make at night, and take notes, the results of which have been given to the profession. After a man has accustomed himself to this plan it is very little trouble, and will repay him for his time, so it appears to me. This tooth I did not attempt to save at all by my process, as I seldom destroy tooth pulps in subjects so young, unless it be in the six-year molars, for this reason, in young subjects we never absolutely know at what precise time the apical foramin is perfected by dentification and cementification. In this case the openings were large open funnel shaped, not closed at all; the tooth probably had been erupted four or five years. I published an article on this subject in the DENTAL REGISTER, during the winter of 1867, while at Cincinnati, based upon observations made of the specimens in the Ohio Dental College. In a practical point of view what would have been the result of divitalization of pulp in the above named case; and an attempt to fill the roots; undoubtedly a failure, as the apical openings are larger than those of the canal up the root, and in all probability had this tooth remained sound, several years must have elapsed before the process would have been complete. This I regard as an interesting case worthy of attention.

In all the published articles I have seen I have never observed anything on the subject of the open condition of roots in young subjects, in relation to killing pulps, which I think at least worth the consideration of the profession. We know, as a general thing, that the tooth is fully grown before this closure takes place, and that this is the last closing out of

the primary series of tooth growth, sometimes being completed soon after the full eruption, and sometimes several years elapse, as in the above cited case. The destruction of pulps in such teeth would be attended with more than ordinary difficulty, and after devitalization the removal, where there are no nodules, would be usually difficult, as in the above named case, even after the tooth's removal; in fact I believe the entire removal by broaches or any other method almost impossible; owing to the large amount of tissue and funnel shaped opening of root. Even admitting the full practicability of entire removal, another almost insurmountable difficulty presents itself that is the excess of tissue at the open root, which must of necessity continue some distance from the point of the root into the Dental socket, in consequence furnishing space and tissue for diseased action and formation of abscess with more than ordinary facility. The more ready absorption of the bone at this age furnishes another favorable circumstance for the enlargement of sack, besides other constitutional tendencies that might be named. I am treating an upper bicuspid in the same mouth, so far successfully by destroying the pulp. I had filled the tooth, approximal posterior cavity a few days ago, and on excavating there was a very small exposure of pulp, which I slightly touched with a very delicate excavator, not enough to cause more than momentary pain and no blood, the cavity small. After a day or two the tooth commenced to be sore and tender, increasing for several days, when she returned for the purpose of having it removed. I with some difficulty removed the filling, and treated the usual way, with, so far, entire success, the tooth entirely dead and relieved, and I am confident of saving it yet, though not if the foramin is open and funnel shaped like the other tooth.

AMALGAM AND ITS PROPER USE.

BY H. L. SAGE, BRIDGEPORT, CONN.

Amalgam Fillings—when are they indicated, or when is the Dental practitioner justified in their use for filling teeth, is a pertinent question, though a hackneyed one, at this time, when the increased sales and the multiplied number of manufacturers of the article, show an enormous annual consumption—a writer in the *Dental Times* having estimated it at a half ton.

There would seem to be, owing to the small amount of time, labor and skill required for its insertion in *comparison with gold*, a great temptation to the minds of unscrupulous, indolent and unskillful operators to use it almost indiscriminately—even going so far as to recommend it in preference, as being *better* as well as cheaper. This is no exaggeration.

But, it is not my purpose to wage a war of words against the proper and legitimate use of amalgam, for, with the improvements which have been made in the qualities of the article by conscientious manufacturers, thus overcoming in a great measure, if not fully, some of the objectionable features which pertained to its employment in days gone by, such as liability to shrinkage, oxydation, etc., it holds an important place in the office of the Dentist, and in certain cases may be rendered very useful, if not indispensable. As to its deleterious effects upon the organism, that is a question which has never been fully settled, the great controversy of 1844-'7 not affording any definite decision of the point in dispute, and that when the quality of the amalgams were much inferior to what they are at the present day, not taking into account the often rude and careless method of manipulation and introduction into the cavities.

When such great lights in the profession as Harris, on this side of the water, and Tomes on the other, have disagreed in regard to its effects, who shall decide the ques-

tion? To quote Harris, "amalgam is the most pernicious material that has ever been employed for filling teeth. When used in considerable quantity it is apt to exert a deleterious effect upon the alveolo-dental membranes, gums, and other parts of the mouth. Several decided cases of salivation occasioned by its use, have fallen under my observation."

Says Tomes: "It has been argued that the mercury used in making the alloy will salivate the patient. I have never seen a case in which this result was produced, and think we may fairly conclude, that the instances are so extremely rare, that they need not influence our practice."

Having thus prefaced my subject, let me suggest, that the value or efficiency of almost any remedy or appliance may be lost by an improper, imprudent, and indiscriminate use, or in general terms, the abuse thereof; so the method of working, employing, or applying any article in itself valuable, may have everything to do with its usefulness; and upon this depends the successful or unsuccessful accomplishment of the ends to be attained.

This being true, *when* and *how* as related to the use of amalgam as a combination of metals for filling teeth, suggests many important inquiries and their answers:

And first, when are amalgam fillings indicated, and when are we, and when not, justified in their employment is a question, the decision of which rests upon many governing circumstances which can not be answered except upon general considerations—individual cases being controlled, or should be, by a conscientious consideration of duty—love to God and love to man—and what is desirable, a correct appreciation on the part of the patient of our mutual relations, and his consequent permission to carry out the dictates of conscience and of judgment—the former unperverted and the latter enlightened by every possible means which may be brought to bear upon it.

Amalgam, in its legitimate use, is a kind of *dernier* resort

as a means of preservation for a class of teeth broken down in structure, and deprived by caries of the greater part of their dentine, and so frail as to come under the familiar appellation of "shells." We often see those that, having been filled or refilled, perhaps with gold, or tin, or amalgam, or oftener not at all, that are, owing to a previous imperfect operation, to neglect, to changes in the fluids of the mouth, or the character of the tooth structure as relating to its proportions of earthy or animal matter, from disease or other causes too numerous to mention, even were they apparent—so far gone that nothing will so kindly approximate to the frail and delicate walls of the cavity, and at the same time prove so durable as amalgam; and such teeth are not unfrequently filled with the expectation that a year or two, at the farthest, will prove the limit of their existence, while it is often the case, that they are thus rendered useful for five, perhaps ten years, and even longer.

Again, there is another class of teeth, whose "name is legion," *i. e.*, those that, from various causes, such as calcareous deposit about the necks, or the presence of foreign matters, may have become so involved with the adjacent and connecting tissues in disease, that their speedy loss becomes probable. Some are decayed, loose and partially protruded from their sockets, while others are in one sense elongated, but not loose. They are with, or without antagonizing ones, as the case may be. It may be desirable to preserve them as long as possible; perhaps the retention of a plate with artificial teeth may be dependent upon them, or old age, or the refusal of the patient to have them extracted, may render it best to fill them. It becomes a serious question, however, whether such teeth had not better be removed at once, for we usually find them associated with diseased gums, and perhaps proving a constant source of irritation and attendant evils. If they are to be filled, however, amalgam may be appropriately used, for generally they will not pay for the insertion of gold (keeping out of view its greater purity and in-

nocuous qualities, as compared with the former), even if the force required in its introduction did not hasten their destruction.

Again, a cavity is sometimes so situated that none but the most patient and skillful can so become master of the situation as to insert a gold filling, perfectly impacted and adapted to the walls of the cavity, which necessitates a freedom from moisture or other impediments to its successful insertion. But though such cases are comparatively rare, they nevertheless come under our notice; and it were better then to introduce a *perfect* amalgam filling, than to fail in the attempt to insert one of gold, sufficiently so to insure the preservation of the tooth.

Some advocate the use of amalgam for deciduous teeth, but the oxychloride of zinc is, in my opinion, preferable, even though its renewal may become necessary.

The above designated cases are the only ones in which I can conceive that it were not *better*, if practicable, to employ gold in preference to amalgam—keeping out of view the cupidity, want of discrimination, poverty or inclinations of the patient, preventive of a wise carrying out of the promptings of our best judgment, rendering applicable in such cases the saying of the Apostles, “when I would do good, evil is present with me;” a slight transposition of the meaning, however, the *evil* being present in the person of the patient.

The practice which obtains with some Dentists, even in these days of progress, of filling cavities in the incisors and cuspids with amalgam, can not be too strongly deprecated. It is hardly possible to conceive of a case in which such practice would be admissible—but there are practitioners, incredible as it may seem, who have distributed such favors (?) in great abundance, as the once beautiful, but now unsightly structures attest—the genial and God-given smile only making the hideousness all the more apparent, the dark and discolored enamel in the front

teeth of the young and interesting remaining a silent witness to condemn the authors of the miserable defacement.

Again, amalgam fillings are not indicated in the approximal cavities of the bicuspid and molars, especially of the former. There is no class of teeth (if we except the six-year molars) so difficult to preserve, or in which so many failures are every day apparent as the bicuspid. Hence, success depends upon the most thorough and suitable preparation of the cavity previous to the insertion of the filling, which should be of gold, and the most perfect manipulation, impaction, and adaptation possible, but the details of which it is not my present purpose to present.

An amalgam filling will do better in the grinding surface of a tooth than in the approximal or buccal, or lingual, and indeed, a cavity in the first situation is more favorable for the permanence of any metallic filling than it would be in any of the latter, but in this even, the amalgam ought not to be used, if possible, to influence the patient; for an operator who can not make a good filling of gold in a cavity opening upon the grinding surface, will certainly fail if he attempts it in any other location, this being the most simple, and easy of access. If overruled in opposition to convictions of duty and the good of the patient, better yield to his peculiarities or circumstances, than that the teeth should be neglected and lost.

For example: A calls to have his daughter's teeth examined, and if necessary, filled. He "wishes you to distinctly understand that he is not going to pay the prices usually charged by Dentists," and wants "cheap fillings." "Amalgam is good enough—he has fillings of it, that were put in twenty years ago." The young lady is interesting, with a denture as regular and well developed as the average. You advocate the use of gold, and try to induce the father to submit to your superior judgment in the matter. You positively refuse to fill the front teeth with the objectionable material—it has never been your practice, and if you are possessed of true manliness, it never will be. So you compromise the

matter by using gold for the anterior teeth, and tin or amalgam for the others. The father is wealthy, but picayunish and little. You might have filled all of the cavities with gold, and *charged* for cheap fillings, but perhaps you were poor, your time was precious and belonged to more worthy patrons, and you could not afford to tax your powers of endurance by such a course, or deprive yourself of the compensation by refusing to operate at all, and permitting him to go to Dr. Slambang across the way, who does not hesitate to *stuff* all carious teeth with amalgam, indiscriminately, if requested so to do, and poorly at that.

When the patient can not *afford* gold, and the teeth are in such a condition that there is a reasonable prospect of arresting the decay, by the employment of a cheaper material, then we may be justified in the judicious use of amalgam (if tin will not answer a better purpose)—that is, in the cavities situated in the back teeth—unless our circumstances will permit us to give the benefit of the best material, without an adequate pecuniary compensation.

In filling the roots and pulp cavities of teeth, amalgam should not be used. There is no excuse for the practice, for if a cheap filling is to be inserted, there are other plastic materials more suitable, and free from the objections which pertain to the use of the former. Who has not observed even ordinary cavities, with amalgam in the bottom and gold inserted upon it? Yes, and when the patient declared that he ordered and paid for an all-gold filling, and supposed it to be such. If you have not, do you live near New York City? In such places "extremes meet."

Having thus considered some of the conditions in which the introduction of amalgam fillings would be admissible and proper, and those in which they would not, let us pass to the second division of the subject, the *how* as pertaining to the use of amalgam, always supposing, if I may be allowed a repetition, that circumstances call imperatively for its adoption. In the first place, the preparation of cavities, though often

different as regards shape, etc., from what is required for gold, ought to be quite as thorough. Though most cavities requiring amalgam, or rather those in which we must use it, nolens volens, come to us with their friable borders, we find it necessary to retain as much of the "shell" as possible, compatible with strength, or the filling will be liable to become loose and fall out, and besides it is best to conceal its character as much as may be. We often find these fillings wedged in, but with no attachment to the walls of the cavities—the effect of contraction, or a want of thoroughness in their insertion, and producing by their presence, irritation of the gums, or affording lodgment for foreign matters, and thus hastening the process of disintegration and decay.

When the borders of the cavity are exceedingly frail, or at all ragged, it is well to cut away to some extent, being careful to leave depth sufficient for the retention of the filling. When necessary to cut away the borders at all, a V shaped space should be left. There should always be some separation where this material is used for approximal cavities, for an amalgam filling should never infringe upon a neighboring tooth by a too near approximation.

Contour fillings of amalgam would not be advisable, in teeth so near the front as the bicuspid, owing to its unsightly appearance, and besides, their permanence would be endangered, which objection does not hold where gold is properly inserted.

We often observe, especially when approximal cavities in the bicuspid have been filled with this material, a contraction of the metal, as above referred to, or a drawing away from the substance of the tooth, one or both, and influenced by various causes, among which may be mentioned as probable—first, an imperfect preliminary cleaning out and shaping of the cavity; second, the absence of dentine to support the filling, as when the enamel only constitutes the borders, or quite a large extent of the surface of the cavity, the adhesion is not so perfect, owing probably to the great hardness and

smoothness of enamel in comparison with dentine ; third, the occasional fracture of the walls, if thin and delicate, an accident to which they are liable in mastication ; fourth, the improper manner of mixing the material previous to its insertion ; fifth, the careless and imperfect manner of packing it ; sixth, the want of care on the part of the patient in not giving the filling sufficient time to harden before eating, thus disturbing its position and adhesion ; or, seventh, the relative proportions of metals introduced and combined in its manufacture.

A cavity with overhanging borders, the orifices being smaller in diameter than the main or inside portions, is not objectionable, as regards the durability of the filling, where a plastic material is to be introduced, provided sufficient substance remains to insure strength ; but, (excepting it may be necessary to leave a layer as a protection to a nearly exposed pulp) there should be a thorough removal of all carious matter, which sometimes extends even to the extreme points of the dentine in the cusps, and into the minute angles of tooth structure ; and here again, special care should be exercised, so as to make these portions of the filling as solid and compact as possible.

Perhaps the use of the os-artificial in these angles, before filling over with amalgam, after leaving sufficient depth and proper shape for the retention of the latter, would be advisable inasmuch as not a little of the discoloration of the tooth would thus be prevented. Where there is a near approach of caries to the pulp it is certainly better to first introduce, after an application of creosote, a layer of the oxychloride of zinc, or of Hill's stopping, as a non-conducting material.

All such teeth can be filled with gold, with a reasonable prospect of permanence, and the natural shape and contour restored, by cutting away until firm borders are secured, and the use of suitable retaining points.

There is a class of teeth in which the retention of amalgam is somewhat difficult ; for instance, where the walls are

so broken down, say in a molar, as to involve a large portion of one of the approximal or buccal, and a part of the grinding surface, to such an extent as not to leave depth of cavity sufficient for the permanence of the filling.

Most have doubtless observed numerous failures in such cases, the amalgam soon breaking away from the walls, by the pressure brought to bear in mastication. Here again gold is much better, when it can be successfully introduced, but the most difficulty would be experienced in the inferior dentes-sapientiae on the posterior or buccal surfaces.

If you have decided upon the use of amalgam where the security of the filling is doubtful, you will find *retaining points* very useful. By this means much more stability can be had and the tooth rendered useful much longer than otherwise. To contour fillings, of amalgam, in molar teeth, they greatly add permanence. It has been my practice to make use of them in the preparation of cavities for *amalgam* fillings, under the above circumstances, though not aware that others have done so. Let the suggestion rate at its true value.

In regard to the manipulation of amalgam, it is good practice, after a thorough mixture of the materials and washing in alcohol until all discoloration is removed, to introduce it in as dry a state as possible, consistent with its amalgamation, and also to bring to bear considerable force in its consolidation in the cavity, until the particles assimilate and assume a polished appearance.

A *minute* portion of the poison being left in the compound, it is certainly less objectionable on the score of its deleterious effects, if any there are, which is a mooted question, for it would seem that the mercury must necessarily remain in excess to produce injurious consequences. Again, if the above rules are observed, the fillings will retain their color and their contraction will be prevented. If it is introduced in a state so plastic that the fingers are the only instruments required (for fillings have been seen bearing their impress), it

can not, it would seem, but exert a pernicious influence upon the health of the patient, especially if possessing a special susceptibility to its influence.

Another thing, the inflamed gums, consequent upon the overlapping or projection of the filling at the cervical portion of the cavity, is a trouble frequently noticed. There is too little regard paid to this matter, too much care can not be exercised in the consolidation and finish of the filling at this point, and if partially or wholly on the grinding surface, it should not be so full as to prevent the perfect occlusion of the teeth. Where two contiguous cavities are filled, if with different metals, like amalgam and gold, they should never be allowed to come in contact with each other, as mischief is sometimes manifested in such cases by the galvanic action produced. To conclude, some operators seem to think, judging by their practice, that no pains-taking is required in the preparation and introduction of an amalgam filling; but let such bear in mind that, "He that is faithful in that which is least, is faithful also in much; and he that is unjust in that which is least, is unjust also in much." Be faithful, be honest, be true.

Is it not to the slovenly, careless and indiscriminate manner of the employment of amalgam that we are to look, in a great measure, for the curses which rest and have rested upon it? When kept within prescribed and proper bounds it may serve a good purpose, though in comparison with gold, the cases are *few* in which the use of it should be adopted.



TREATMENT OF TOOTH PULPS.

BY J. G. WILLIS, M. D., CINCINNATI, OHIO.

No complication attending the decay of teeth has given the profession more trouble than the exposure of their pulps. Its consideration has added largely to the literature of our Dental journals, and has afforded the widest field for the display

of purely scientific ability of those members of the profession, who have seen fit to make public their views, and the practice formed thereon.

The gravity of this complication can not be easily overestimated, and notwithstanding the extensive consideration which the subject has elicited, through the journals and societies in all sections of the country, there is no settled course of procedure recognized by the profession, as being preferable to all others. The methods of treatment when the same result is desired to be obtained, are as diametrically opposite as the results themselves—the life or death of the pulp.

Heretofore the question has been how best to save a *tooth* after a pulp was exposed, and the earliest means adopted for that purpose frequently, if not always, resulted in the death of the pulp and ultimately, if relied on solely in the loss of the tooth itself, from ulceration, abscess and internal decay. The propriety of destroying exposed pulps under any circumstances, I will not at this time consider, except incidentally. As a complete exposition of the subject would consume more of my time than at present I can spare.

But the best practice—and the best because the most successful—in cases of exposed pulps, when their death is decided to be imperative, has not yet been agreed upon by the profession, and therefore the practice in such cases is widely variant, and results as widely. That the profession may have another method of practice in such cases, from which to select; I will, as briefly as the subject will admit, give mine in detail, and the reason therefor. I use arsenic for the devitalization of the pulp—the usual formula, viz: arsenic, creosote and morphine—before applying to the pulp I clean out the cavity of decay, as thoroughly as possible, and with the excavator locate the opening into the pulp cavity, and enlarge it as much as the patient will allow. The removal of decayed and discolored dentine allows a better view to be had of the cavity, and enlarging the opening into

the pulp cavity insures a more thorough application of the destructive agent. I make the preparation very *thin* with creosote before using, and saturate a pledget of cotton, and press it directly upon the exposed pulp; this pressure usually causes some pain, and the pain is a sure indication that you have made the application at the right point; therefore, if no pain is complained of, I continue to move the cotton around until the outcry of the patient notifies me that I have hit the spot. I continue a moderate pressure for a minute or so to give the preparation time to insinuate itself between the pulp and the walls of its containing cavity. The fluidity of the preparation renders this a matter of no difficulty whatever, and the death of the pulp is rendered much more certain, than where the preparation is used thicker. I rarely have to make the second application, and never, except in cases in which the exposure is small and can not be increased by reason of pain. I then, with another pledget of cotton, absorb the surplus creosote, and stop the cavity with *wax*, and I endeavor to press the wax in the direction of the exposed pulp, so as to be sure that the latter is not moved from its contact with the opening into the pulp cavity. This usually also causes some pain, which assures me everything is all right. I direct the patients to allow the wax to remain four hours, and four hours *only*, when they are to remove it and the cotton, and return next day.

After considerable experimenting, in which my object was to find the shortest possible time required to kill a pulp, I have settled upon four hours, and with a reasonable amount of exposure, will not fail once in fifty times to produce the desired result. Again, I do not think it proper to hermetically seal the cavity of decay, for the gases and fluids—the products of decomposition of the pulp—must find exit at some point, and if prevented from escaping through the crown, will be forced through the apical foramin, and irritation, congestion and inflammation of the investing membrane of the root will be the result, and if left sufficiently long, abscess will be the

inevitable result. Above all things, then, I caution all to never hermetically seal up a cavity, in which there is an agent destructive to the pulp.

Here it will be proper for me to say that if I could always do as I choose, I should extract the pulp mechanically; but as people will not consent to that operation, we have to select another. At the next sitting of the patient I enlarge the opening, and very generally without pain, and expose thoroughly the root canals. If I find some tenderness in the extreme end of the roots, I am not at all sorry, for by that I shall be assured that the effects of the preparation have not gone beyond the tooth, but are confined within its cavity. Frequently blood will escape from the canals; when this is the case, I regard the operation as in the same stage, as though the pulp had been mechanically extracted, and the object to be accomplished the same, viz: the healing of the divided pulp and the closure of the foramin. I seldom use the barbed nerve extractors, but when I have used one and safely removed it from the canal, I thank my stars that it did not break, and if I had then always thrown it away, I should have been saved great trouble from its subsequent breaking. They are bound to break sooner or later, and therefore should not be used once *too* often. I am exceedingly careful not to force an instrument through the apex of a root, as frequent failures result from this cause alone. And I never use a drill in a root; as from the frequent deviations of canals from straight lines, drills are often driven through the root against the alveolus, and this accident makes a failure inevitable.

I have seen three teeth, the extraction of which was made necessary from this cause. In one of them cotton, and in another, gold projected beyond the tooth, while the third could not be got into a condition to fill, and when removed the reason was plainly apparent. These accidents all happened in the practice of as good Dentists as the country affords,

and should be a warning to all when they attempt to use drills in such places.

After removing all the *debris* of the nerve I dry out the canals as thoroughly as possible with cotton, drawn out into a fine thread, slightly twisted, and carefully forced into the canals. I then saturate a similar thread of cotton with creosote, and lightly force into the root, leaving the end to project into the cavity, that it may be easily removed. Close the cavity with wax and direct the patient to call the next day. On the next visit I remove the cotton from the roots, again explore them thoroughly and make another application of creosote, as before, always being careful not to force creosote through the root. My object being to close up the tubuli and destroy any septic matter in the canals. The divided pulp will heal readily and entirely close the foramen and no fear need be apprehended of any fluids finding their way into the canal, whether plugged or not. Many Dentists labor under the delusion that the object of plugging the root canals is to prevent the accumulation of fluids in them; if there should be any fluid of any description, whatever, which would drain into the canal, if not plugged, the preventing of that drain would insure peri-cementitis, and perhaps loss of the tooth. At the next sitting of the patient, after removing cotton and thoroughly cleansing the canals, I force a very small thread of cotton, saturated with creosote, into the root as far as I can, absorb the excess of creosote, and plug the root canal, or not as is most desirable, if small, I just plug their mouths, if larger, I generally plug them through their whole extent.

If a tooth is not to be plugged as soon as it is in a condition to be *safely* plugged, the crown cavity must be sealed up with something, to prevent the access of fluids of the mouth to the root canals. I use Hill's stopping for this purpose. I often plug the roots and then wait for a day or two to observe results; if no trouble supervenes, I plug the crown cavity, with complete confidence that there is perfect im-

munity from danger. A tooth is made sore sometimes by forcing threads of cotton into the canals too tightly, thereby preventing any drain which may come from dead tissue; this can only be done with safety, after all foreign matter is removed from the root, or is converted into an indestructible compound by action of creosote. Whether a tooth is in a condition to be plugged or not, may be determined by plugging the crown *only*, with Hill's stopping. If there be any discharge it will soon manifest itself by uneasiness in the tooth when the stopping should be removed and creosote again applied. Many Dentists charge upon arsenic, all the soreness that follows its application to an exposed pulp; but they forget that the same degree of soreness may be produced in a tooth with pulp already dead, by plugging the crown tightly, and the same result occurs in both cases from the same cause, with which the arsenic has nothing to do, except to produce the condition upon which decomposition depends. The above practice has been so thoroughly satisfactory in my hands that I feel warranted in assuring all who will follow it, that they need not lose a tooth treated in accordance with it, unless complicated by themselves. I have treated about fifty teeth with exposed pulps in this manner, during the last year, and have not had a complaint from one of them, and without a failure in a single instance. A ratio of success that can not but recommend the practice to all. I sincerely hope that this article may be the means of shedding light, and that by reason of it, some teeth may be saved which would otherwise be lost.



CHLORO NITROUS OXYD.

BY DR. PARKER.

AN article in the July No., of the DENTAL REGISTER, by R. N. LAWRENCE, D. D. S., in which chloro nitrous oxyd is disposed of so confidently, is of such a very peculiar nature that I wish to say a few words in reply.

In the first part of May last, I received a letter of which the following is an exact copy, excepting the introductory clause:

"I am using Nitrous Oxyd and have been for a long time I have felt all the inconveniences referred to by DR. PARKER, I would ask is your manner of producing it a secret or *patented*, if not, I would like to know how it is done and would be pleased to hear from you at your earliest convenience."

I am very Respectfully Yours,

R. N. LAWRENCE, D.D. S.

I was not favorably impressed by his allusion to patents, but remembering that every man *must* have his hobby, I wrote him "that it was not a secret but was *patented*, but was none the less valuable on that account, and as I knew of no good reason why a man should deprive himself of the use of a good thing merely because it was patented, I should answer his enquiry the same as though it was not *patented*," and then gave him minute directions how to make chloro nitrous oxyd, after the manner that over a year's experience in its use and a large number of careful experiments had taught me as being the best; and the only "pay" that I asked of him for "imparting the great secret" was that he should give it a fair trial and report his success to me, whatever it might be, I had reason to expect that if he attempted it at all he would follow my directions with an exactness that the importance of the subject and the safety of his patients demanded, but instead of that he proceeded, as he says, "to try its merits" by not following my directions in a single particular, and then reported his experience through the REGISTER with a confidence that I think is not justified by the nature and extent of his investigations. He made a blunder, not a very dangerous one to be sure, but a very unhappy one, by using eight times the proportional amount of alcohol that I directed him to use, and my experience has taught me that a much less proportional amount than he used will frequently produce after effects similar to those produced

by chloroform. I can not conceive why the subject of patents was lugged into that article. "Is the value of chloro nitrous oxyd to be decided by it." "Has its safety or efficiency any connection with that subject whatever." I hope it was not intended to beget in the minds of others that prejudice which evidently pervaded his own. The subject of patents I will not discuss here, but will say, let us act like men, and not "wrap the mantle of selfishness about us," and say, "sir," give me the benefit of your time and money spent in developing this thing, or I will treat you as a man outside the pale of common civility. After all, Dr. Lawrence just barely missed of success. An escape so narrow, under such circumstances, speaks volumes in favor of the inherent virtues of chloro nitrous oxyd.

No man ever did, or ever will, attain to any degree of success with nitrous oxyd, if he attempts it with the same spirit and lack of skill displayed in this case. Indeed who would speak so confidently after such a trial with it, and what would such an experience be considered worth to the profession. He says that he produced anæsthesia in much less time, it was more profound and more prolonged, and recovery was not as speedy as when nitrous oxyd alone was used, the same results, as far as they go, as were claimed in the article written by Dr. Parker. The after effects that he complains of were not the legitimate results of chloro nitrous oxyd. Had he communicated with me, I think he would have had no further trouble on that score, and then he could have said also, that it was safe and pleasant, thereby completing the catalogue. The causes that produce congestive chills in different persons are so various that I will not venture an opinion as to what caused them in his sixth case. I am acquainted with a lady who can not smell of creosote without producing congestive chills. As to his experiments with the lady troubled with heart disease, when he had reason to think that he was "putting to trial the fearful issues of life or death," I have nothing to say. With me chloro nitrous oxyd

is not an experiment. I have used it a year and a half with all kinds of subjects and under all the various circumstances that the practice of Dentistry will develop, and have found it *safe, pleasant and reliable*. I have nothing to say against nitrous oxyd, I appreciate its benefits to the profession and have felt all its weakness. If its usefulness can be increased it is certainly desirable. If chloro nitrous oxyd promises to do so, let us lay aside *all* prejudices and give it an impartial and exhaustive trial. Let us bring all the light attainable to bear in our investigations, and then let it stand or fall on its own merits. I do not expect that every one will succeed with it. The history of the introduction of nitrous oxyd would seem to indicate that such a result is not possible; neither is it claimed that it is *all* that we desire in an anæsthetic agent, but my experience satisfies me that it is the best now in use in Dental surgery.

I shall continue to give directions how to make chloro nitrous oxyd, in answer to the enquiries of those who wish it, on condition that they give it a fair trial and report their success to me.



“OS-ARTIFICIAL IMPUGNED.”

My critic, writing under the above head line in the November REGISTER, has produced a review which, in some of its parts, is quite too erudite for my pen. When I had read to the end of his second paragraph, the first time, I am able now to remember that I seemed to be released from all sublunary things. How long I floated a thousand feet or more in the regions of space that surround terra-firma, I can not now tell. All I can say is, that there came a time when I realized that I was not yet done with materiality, and with this working consciousness I perceived that I might still use my privilege, perhaps duty, of dealing with things on my immediate plane, and thus I resolved, that, though I could not grapple with the erudition of W. F. M., I could say in

my own way something further of os-artificial, because the matter concerned Dentists and Dentistry.

"*To me there is nothing reasonable in the idea that oxy-chloride of zinc can induce the re-formation of natural bone over exposed pulps.*" Upon this matter I am not only not changed, but every month growing more incredulous. I think it just barely probable that exposed pulps may be bridged over where the recuperative forces are strong and the pulp is kept covered a sufficient length of time, but unquestionably this process will go on quite as well under one non-conducting substance that will remain *in situ* and impervious to fluids, as another. This is what I claim and what my experience will not permit me to doubt. "*It is a foreign substance and an irritant.*" Does W. F. M. think it is not? And is the "*styptic colloid*" covering less a foreign substance?

But my critic is confident that the "*positive failures are more in the Dentist than in the agent.*" Is the relation of arsenic acid to mucous membrane changed, or its action thereon modified by the skill, or otherwise, of the hand that causes them to come in contact? And how does W. F. M. know that the larger number are "*careless and heedless*, and unpliedly unskillful in their manipulations with the agent in question. I can excuse the egotism which prompts such assumption, for it is a quality of the mind and is no more to be quarreled with than pug noses or red hair. And the confidence of the reviewer sustained by his self reliance, makes him clearly ask to be understood as saying that *he* is not one of, the "*careless and heedless*," and unskillful.

He means to educate the miscellaneous contributor, and "*clear him up a little.*" His lessons will be worth more ten years hence than now, if he should have, during that time, taken careful note of a great many cases thus treated, and then render a tabular statement of the per centages of successes and failures. And in that way he perhaps also can contribute something to Dental literature that will be worth filing. I do not now pretend to say what the results

of such observations are to be, but I think it quite probable that my friend's confidence in the reliability of the oxychloride as a "*pulp preserver*" would be materially toned down. We have no guides beside our experiences and those of others working with us, and of these our own is first, others are aids. We shall see, let us wait.

And again. "Its popularity is steadily gaining." With some it is; with others loosing. It has been my experience, to have witnessed many cherished births of conceived right ways of doing things in Dental practice that have steadily, for a time, ascended towards the zenith, and then declined and set in endless night. I do not say it will be so with the os-artificial as a pulp preserver, but I am for patient waiting after careful trial.

I do not know why it should have been said that I impugned the os-artificial. I wished to say that perhaps too much is being claimed for it in advance of sufficient trial, and I gave my reasons for so thinking. But then I told him I used it and what for. No man would rejoice over its success more sincerely than myself, and I hope that I shall not be outdone in gratitude to the benefactors of our profession who bring real discoveries to us. In the meantime we must all keep very much to our own experiences.

I am glad to see this agent thoroughly tested by earnest men, and do not intend to raise uncalled for issues before the time, and therefore will not take further time or space at present in writing down in extenso all my reason for the want of confidence I have expressed. I will not hesitate to do so, however, at more length should the occasion arise.

And now, if readers will indulgently excuse the repetitions of the personal pronoun, first person, which has seemed unavoidable, I will for the present dismiss the theme by saying that I never expect to know that the oxychloride of zinc can induce the growth of natural bone when placed over the exposed membrane of nerve pulp. The nerve membrane is

an organized, vital and exceedingly sensitive tissue that will not long tolerate the proximity of any inorganic, and therefore lifeless matter, and I have no doubt whatever, that under the treatment proposed, even by the best skill, by far the greatest number of pulps will at least be found to have perished.

MISCELLANIES.



A PECULIAR CASE.

BY S. L. BRACY.

A lady about 35 years of age, dark hair and eyes, large and very fleshy, rather below the medium height; called to have a tooth extracted; upon examination, I found the root of the eye tooth on the right side the only one remaining in the mouth (all of the others having been extracted six weeks before), and that broken off even with the gums and considerably inflamed about it. After cutting around it well, so as to get a fixed hold, it was extracted with very little difficulty, though quite painful. As soon as extracted, I saw the blood flow freely from the right nasal cavity. She observing, that something had been broken or torn loose between her nose and tooth, or mouth. As she felt the cold air pass from the nose through the alveolar cavity (from whence the tooth came) into the mouth, in an instant almost; however, after the root had been extracted the parts surrounding the orifice closed in, so that no more air passed through that orifice. The blood continued to flow freely from the right nasal cavity for about five minutes, and then ceased. There was very little blood from the alveolar cavity into the mouth. I then examined the root which I found about medium size and length. Just at the point appeared to be partially absorbed, or sharpened, and the point enclosed in a sack or abscess. After the bleeding ceased, I examined the mouth, found nothing

unusual in appearance, but on introducing a probe, I found the opening passed through from the mouth into the nasal cavity, and the probe passed into the nose and produced a disposition to cough and spit, as if something had lodged in the cavity of the nose. There was no other difficulty or inconvenience, the wounds healing up very well and rapidly, and in a few days was without soreness or inflammation.

The lady informed me that when the corresponding tooth of the left side was extracted, she experienced a similar feeling, that is, felt as if something had been broken or torn loose between the point of the root and nose, but no blood came from the nose, nor was there any air passed from the nose to the mouth through the alveolar cavity, but says that the cavity of the nose on that side feels considerably larger to her than it did previous to the extraction of the tooth. She has experienced no trouble or inconvenience since the extraction, except some dull pain in the face and jaws for a day or so subsequent to the extraction.

I have never met a similar case, nor did I ever hear of one, would be glad of an explanation, whether or not it is common.

Proceedings of Societies.

AMERICAN ACADEMY OF DENTAL SCIENCE.

The second annual meeting of the American Academy of Dental Science was held in Boston, September 27, 1869, at the rooms of the Suffolk District Medical Society, No. 36 Temple Place. The President, Daniel Harwood, M. D., in the chair.

There was a very good attendance of members present, and in addition a number of invited guests, Dentists, Physicians and other scientific men.

The Treasurer, Dr. E. G. Tucker, presented his annual statement, which showed the financial affairs of the Academy to be in good condition.

The following officers were elected for the ensuing year:

President—Daniel Harwood, M. D.; Vice-President—E. T. Wilson, M. D.; Recording and Corresponding Secretary—E. N. Harris, D. D. S.; Treasurer—E. G. Tucker, M. D.; Librarian—John Clough, M. D.; Board of Censors—E. G. Tucker, M. D., J. L. Williams, M. D., D. M. Parker, M. D.

Dr. Joseph H. Foster, of New York, was elected to deliver the next annual address, and Dr. E. T. Wilson, of Boston as substitute.

The censors reported the names of several gentlemen for membership in the Academy, and they were duly elected members.

After some discussion upon the different methods of filling teeth, Dr. E. T. Wilson read a valuable paper upon "Dental Science," which was well received.

At four o'clock the President, Dr. Harwood, delivered the

annual address. His subject: "The Qualifications and Education of a Competent Dentist." The address was a very able and interesting dissertation, listened to with deep interest, and at its close elicited the hearty applause and approval of the assembly.

A vote of thanks was given to Dr. Harwood for his address, and a copy requested for publication.

At five o'clock the Academy adjourned to partake of the anniversary dinner at the Parker House, which was served in the usual excellent style. Dr. Harwood presided. Prayer was offered by the Rev. Edward E. Hale.

After doing ample justice to the viands, very pleasant after-dinner speeches were made by Dr. Harwood, Rev. E. E. Hale, Rev. Mr. Hinckley, of Dorchester, Dr. J. H. Foster, of New York, Drs. E. T. Wilson, and John Clough, of Troburn, E. N. Harris, E. G. Tucker, W. W. Codman, J. L. Williams, A. T. Emery, H. F. Bishop, of Worcester; D. S. Dickerman, of Taunton; Messrs. C. H. Frothingham, W. L. Tucker, and C. P. Wilson.

Selections.

HYGIENE IN ITS RELATION TO THERAPEUTICS.—A paper read before the N. Y. Medical Journal Association, June 25th, 1869, By Alfred M. Carroll, M.D., etc., etc.

There are in this paper some facts that help to form the basis of a successful practice ; we select a few for our readers :

Lexicographers limit the department of hygiene to the prevention of disease, but etymology and experience show it has valid claims as a curative science. One legend of Mythology tells us Hygeia was the daughter of Esculapius. It is therefore probable she aided her father in the healing art. Plutarch says that while the vestibule of the Athenian Citadel was building under Pericles, one of the most skillful workmen fell, and was bruised so that his life was despaired of. Minerva told Pericles in a dream of a remedy, that speedily restored him ; in memory of which, he placed near the altar a brazen statute of the goddess ; naming her Hygeia, or the Minerva of health.

Many maladies once thought to require the speedy interference of medical art, are now known to be self-limiting, naturally tending to a healthy end ; and not capable of being shortened or materially modified by the use of drugs ; it seems that all so-called acute diseases belong to this class.

The hygienic agents adapted to the treatment of disease, are good food, drink, and all other materials that will supply elements that are deficient in the organism.

Temperature, climate, clothing, exercise, bathing, electricity, sunlight, etc., may be used to benefit the system, and bring it to that healthy working condition necessary for the speedy and proper application of the nutritive elements taken as food.

Dr. Austin Flint, tells us certain parts of the body may suffer from the blood wanting the proper materials for their nutrition. Muscle is starved for want of nitrogen, the fats and animal heat for carbon, the brain for phosphorus, the blood for the salts of lime—potash, soda, iron and magnesia—so essential to a healthy state.

Most diseases are caused by defective—supply—assimila-

tion, or by excessive waste of the elements essential to health, in the part diseased. All the elements required may be in the food taken, but the powers of assimilation being weak, one may starve to death on four meals a day.

For the intelligent use of alimentation, etc., I append the table formed from Barral's experiments on the human subject. Sulphur too (found in albuminoid matter) is required, and phosphorus (meats have much of it in soluble phosphates; it is also in most vegetable aliments), soda, potassa, magnesia, lime, iron, etc. If we can find out what

Amount in grs. (Troy) furnished and eliminated during every twenty-four hours for each pound (avoirdupois) weight of the body.

	C.	H.	N.	O.	Water
Furnished by Alimation,.....	53 90	8 39	4 20	49 00	294 73
Furnished by Respiration,.....				156 12	
				205 12	
Eliminated by Skin and Lungs,.....	49 42	7 62	2 17	202 60	121 18
Eliminated by Kidneys,.....	2 24	0 42	1 61	1 19	157 94
Eliminated by Intestine,.....	2 24	0 35	0 42	1 33	15 61
	53 90	8 39	4 20	205 12	294 73

elements are required; to supply them, a knowledge of the chemical composition alimentary matter is required.

Alimentary substances conducing to tissue formation, are called "plastic," and "respiratory" when they produce heat; the former comprising nitrogenized substances, the latter rich in hydrogen and carbon. Vegetable food is richer in respiratory—animal food in nitrogenized—elements.

Under a deficiency of the hydro-carbons, nitrogenized substances may be converted to respiratory purposes,—indeed gelatin highly nitrogenized, serves no plastic end, but is purely calorific, and whether respiratory food may not be used to some extent for reparative purposes, is an unsettled point. The nervous tissue is doubtless nourished by fatty substances combining phosphorus from the mineral salts.

	Plastic.	Respiratory.	Plastic.	Respiratory.	Plastic.	Resp'ry.		
Rice.....	7 55.....	90 45	Corn.....	12 30.....	80 60	Barley.....	12 96.....	79 19
Wheat, } fm 14 60.....	66 40	Rye.....	12 80.....	75 40	Oats.....	17 00.....	50 80	
to 17 20.....	64 60	Peas.....	23 40.....	50 00	Beans.....	24 00.....	48 50	
Potatoes.....	1 40.....	19 30	Cocoa.....	18 00.....	67 60	Chocolate	13 00.....	67 60
Meats contain:								
	Fibrin and Albumen.		Gelatin.		Fatty matter.			
	Veal.....	9	7 5.....		16 5			
	Beef.....	8	7		20			
	Mutton.....	5 5.....	7		40			
	Pork.....	4 5.....	5 5.....		50			

Fish, according to species, contain: of nitrogenized matter, (including gelatin), from 13 to 24 per cent.; of fatty matter, from 6 36 to 13 per cent

We should note the comparative powers of gastric and intestinal dejection, and give as much food as can be digested and assimilated. Respiratory food may be necessary, and yet the alkaline intestinal digestive function inadequate, while the stomach is still in working order. Here, and in all cases where emaciation and innutrition are caused by excessive oxidation of albuminoid matter, gelatin will be useful since it offers respiratory materials digestible by the stomach.

If nervous power be defective, meats (rich in phosphates) or still better, fish should be largely taken. Meats, and milk too contain about one per cent. of iron, therefore they should be the chief diet in anæmic conditions.

This mode of treatment is strikingly shown in scurvy and some other diseases.

The particular desires of the patient should be observed ; for specific wants of certain tissues, are often shown by a craving for certain kinds of food. In disease a strong desire for peculiar articles of diet, may be the still small voice of some suffering tissue, urging its wants above those of its fellows. The habits, and perversions of appetite have also to be considered.

Of accessory food ; tea, coffee, tobacco and alcohol, have besides any special qualities, the common property of lessening the disintegration and absorption of albuminous tissues, and may be useful in lessening any excessive waste in this direction.

The use of iron in anæmic, or the phosphates of hypophosphates in nervous asthenia is essentially hygienic—applying assimilably the alimentary principles wanting in the tissues. Cod liver oil is food, not physic, and other successful drugs will doubtless, as our knowledge advances, be termed aliments. If, as Dr. Dupre concludes, animal quinoidine be a normal constituent of the body, promoting fluorescence of tissues, be correct, then quinine may be placed on this list. Rice and arrow-root are thought to produce constipation, but this apparent result is caused by their leaving little excrement ; they are therefore useful when rest for the lower bowel is wanted.

In cool weather a fire supplied with pure air from an inlet at the upperpart of the room, will offer the best means of ventilation. Under all circumstances, at least a thousand feet of air should be allowed per hour to each person in the apartment. The organic matter exhaled from the body is more hurtful than carbonic acid.

Dry air being a bad conductor of heat, in a dry, cool at-

mosphere the temperature of the body is lowered chiefly by radiation. On the respiratory organs dry air is directly cooling, owing to its affinity for moisture—which varies greatly with the temperature: a hundred cubic feet of air at 4° , is saturated with 6.6 grs. of water, but at 104° there are 216 grs. required.

Cold, dry air by its non-conducting property, conserves animal heat, but hot dry air by promoting evaporation of the perspiration produces a cooling effect; *vice versa*, a cold humid atmosphere is a speedy refrigerant, and warm moist air augments the bodily heat. An important application of these principles is seen in the use of vapor and hot air baths. The super-saturation of the vapor bath prevents evaporation of the perspiration, and the body accumulates caloric, but the bath of hot air with its large hydrometric capacity accelerates evaporation from the skin and lungs, abstracting a large amount of heat, hence it can be borne better and longer than the former.

Increased atmospheric pressure, perhaps, accelerates the circulation mechanically, and compressed air—having more oxygen in a given bulk, is used empirically in some diseases. Dr. G. Von Liebig has deduced, from experiment with compressed air, that when the subject becomes accustomed to breathing the denser medium, there is not any material difference in the number of respirations, the quantity of air respired, nor in the amount of carbonic acid eliminated per minute. Rarified air rendering greater the relative weight of the body, causes a tendency to congestion and hemorrhage, augments insensible perspiration, forcing the lungs to increased action, by furnishing less oxygen in a given volume, and thus quickens the circulation.

Artificially increasing the oxygen inspired, has in many cases produced gratifying results. Visceral engorgement or hæmorrhagic bowels require a warm, humid, and not too elevated a locality. Scrofulous, dropsical, diarrhœal disorders, and generally those with excessive mucous secretion call for warmth and dryness. Many nervous maladies require a temperate, moist climate. As dry, hot climates derange the liver and bowels, the opposite conditions relieve them.

Heat tends to increase the activity of nutrition, but the amount of caloric carried off by transpiration, by calling an excess of blood to the surface, induces sluggish digestion and rapid exhaustion. Bile and semen are increased in hot cli-

mates, the other secretions are lessened by abundant perspiration. As the skin may act vicariously for the kidneys, hot, dry climates or the hot air bath—if not contra-indicated, may be beneficial.

Cold diminishes cutaneous action, drives the blood from the surface to the internal organs, renders the circulation sluggish and increases the secretions generally. I protest against the American fondness for furnace and stove heat—without provision for increased evaporation of water for the increased hygrometric capacity of heated air, causing probably our national tendency to sore throat. Light greatly conduces to health, stimulating the nervous, and physical system. It causes wounds to heal more rapidly than when covered.—*Nashville Journal of Medicine and Surgery.*



SPECIALTIES.—A distinguished correspondent of this month writes us as follows:

Old things are fast passing away, and he who would stand still and cling to antiquated ideas must needs be soon lost in this age of telegraphs and railroads. We are prompted to make these remarks by the rapid and long strides which the science of medicine is daily making. In the days of our grandfathers, when an individual put up his sign as a Doctor, he professed and in truth advertised himself to pull teeth, doctor eyes, cut off legs, etc.; things have somewhat changed since then. The extent of the field of learning occupied by medicine is so great, that it is impossible for one mind in the three score years and ten, to master all of the many difficult problems on the chess board of life. Hence, the natural tendency to division of labor, from whence arise the specialties in medicine. Since then, this necessity exists, why should the great law-making power of the Doctors condemn this division of labor? It does so by putting its seal of outlawry upon all those who dare, by either sign or any other modest way tell the public what they are. We know that it requires years of intense study to make oneself proficient in any particular class of diseases, especially those of the eye and ear. Ought you then to expect one who has spent the best years of his life in such a course, "to hide his light under a bushel?" yet such is the effect of the code of ethics, for he cannot,

make himself known in the light of his specialty, for fear of being tabooed by the high dignitaries of the American Medical Association. A change is demanded, not only in justice to those whose inclination may have led them in some special channel, but also in justice to the great public whom it is the special duty of the medical profession to protect. By pursuing the present course, think of the untold injuries which may be, and are daily inflicted by these advertising pretenders who see only the almighty dollar in their every act. We are not only for permitting the man of science who professes a specialty, to announce himself as such, but to compel him to do it—or else the general practitioner will be destroyed. Let the specialist be unmasked, and sell for whatever he will bring in the market. He has preyed upon the vitals of the general practitioner long enough. Strip him of the garb of greatness, with which mystery has invested him, and force him to appear in his true character. Force him to come out and fight the great enemy under his little brigade colors alone. Don't let him wander all over the field and take a stray shot here and another there, wherever he can find a good place fitted up by an old-fashioned general practitioner. Let the surgeon announce himself as such, the aurist and oculist in like manner, but hold them to their bargain, and do not let them trespass upon the field of the general practitioner. By pursuing any other course, you put the latter class completely at the mercy of the specialist. To illustrate:—Let us suppose a case of serious injury occurring; the family physician is sent for—he calls to his aid a surgeon, who, as a matter of course, leads in the case, thus throwing the family physician completely in the back-ground. All the neighbors witness this ignoring of their great man, and that too, by his consent. What is the result? His sceptre departs from him, and it matters not what occurs in that region thereafter, a belly-ache or what not, the great surgeon is sent for. How often does it happen that good men are thus ridden over rough-shod by those who are their inferiors, through the influence of the glitter of an amputating knife. Now suppose you force this surgeon to announce himself as such, the people are educated by this fact, and expect, in all cases of injury, that his assistance will be demanded. He receives the credit to which he is entitled, and no one loses, for he is fenced in by his specialty.

Therefore, we say, not only permit them, but compel them to come forth from the hiding place in which they are now cooped by Article——of the Code of Ethics.—*Nashville Journal of Medicine and Surgery.*



A KEY TO EVERY IMPOSTURE AND VILLAINY.—“To surround everything, however monstrous and ridiculous, with an air of mystery, is to invest it with a secret charm, and power of attraction, which, to the crowd, is irresistible. False priests, false prophets, false doctors, false patriots, false prodigies of every kind, veiling their proceedings in mystery, have always addressed themselves at an immense advantage to the popular credulity, and have been, perhaps, more indebted to that resource in gaining and keeping for a time the upper-hand of truth and common sense, than to any other half dozen items in the whole catalogue of imposture. Curiosity has been from the creation of the world a master passion. To awaken it, to gratify it by slight degrees, and yet leave always something in suspense, is to establish the surest hold that can be had on the unthinking portion of mankind.”

In all ages the thought above, so beautifully clothed, has been the foundation-stone of every quack and quackery that has disgraced the name of medicine. Let every honest physician exert himself to rend any remaining veil of any department of his profession. Have no mystery about anything, and publish to every one that wherever there is mystery, there is wrong, and that whenever a doctor is mysterious, he is to that extent a rogue. Publish a condensed code; let every family have one. All the mystery about consultation that now so annoys good meaning, intelligent people, would instantly disappear.”—*Jour. of Med. and Surgery.*
M.



VEGETABLE NATURE OF DIATOMACEÆ.—Dr. H. L. Smith in the July number of the *American Journal of Science*, gives the results of his spectroscopic examination of the Diatomacæ, and comes to the conclusion that they are of vegetable nature. He has been able to prove the absolute identity of *chlorophyl* or the green endochrome of plants with *diatomin*

or the olive yellow endochrome of the Diatomacæ. By means of the spectrum-microscope, there is no difficulty in obtaining a characteristic spectrum from a living diatom, and to compare it directly with that of a desmid or other plant. From about fifty comparisons of spectra, Dr. Smith finds that the spectrum of chlorophyl is identical with that of diatomin. We refer to the original paper for a figure of the spectrum and for the precautions necessary to be observed in making the examination.—*Journal of Applied Chemistry*.

THE following passages in the noble Inaugural Address of President Eliot at Harvard University attracts our special attention.

The statement is undoubtedly true which was uttered by Dr. Jacob Bigelow, that general scholarship, as the expression was understood and as that form of culture was attained fifty years ago, is now impossible; because the scope of each branch of knowledge has been so enlarged, and because so many new fields of research have been opened. Yet this statement is a good foundation stone for the additional block which President Eliot has hewn out for us to lay upon it the extract we now make.

“The actual problem to be solved is not what to teach, but how to teach. The revolutions accomplished in other fields of labor have a lesson for teachers. New England could not cut her hay with scythes, nor the West her wheat with sickles. When millions are to be fed where formerly there were but scores, the single fish-line must be replaced by seines and trawls, the human shoulders by steam elevators, and the wooden-axled ox-cart on a corduroy road by the smooth-running freight train. In education there is a great hungry multitude to be fed. The great well at Orvieto, up whose spiral paths files of donkeys painfully brought the sweet water in kegs, was an admirable construction in its day; but now we tap Fresh Pond in our chambers. The Orvieto might well remind some persons of educational methods not yet extinct. With good methods we may confidently hope to give young men of twenty or twenty-five an accurate general knowledge of all the main subjects of human interest, besides a minute and thorough knowledge of the one subject which each may select, as his principle occupation in life. To think this im-

possible is to despair of mankind; for unless a general acquaintance with many branches of knowledge, good as far as it goes, be attainable by great numbers of men, there can be no such thing as an intelligent public opinion; and in the modern world the intelligence of public opinion is the one condition of social progress."

"The examination [for admission to College] is conducted by college professors and tutors who have never had any relations whatever with those examined. It would be a great gain, if all subsequent college examinations could be as impartially conducted by competent examiners brought from without the college and paid for their services. When the teacher examines his class, there is no effective examination of the teacher. If the examinations for the scientific, theological, medical and dental degrees were conducted by independent boards of examiners, appointed by professional bodies of dignity and influence, the significance of these degrees would be greatly enhanced. The same might be said of the degree of Bachelor of Laws, were it not that this degree is, at present, earned by attendance alone, and not by attendance and examination."

We make one more brief extract:—

"The Medical Faculty affords another illustration of the same principle—that for real University progress we must look principally to the teaching bodies. The Medical School to-day is almost three times as strong as it was fifteen years ago. Its teaching power is greatly increased, and its methods have been much improved. The gain is the work of the Faculty of the School."—*Boston Med. and Surg. Journal*.



DR. W. K. BOWLING, of the *Nashville Journal of Medicine and Surgery*, is one of the few "jolly writers" on the solemn subjects of "physicians' fees, "ingratitude" of patients," "delinquent patrons, etc.," and draws "fun" from all such topics, as the bee sucks honey from the freshest clover blossoms. Read the following description of his method of "charging" his patients:

"Do you charge anything for this?" said a substantial countryman, eyeing the hieroglyphics upon a prescription paper we had handed him, after we had thumped every rib

in his body and every vertebra in his backbone, placed the bulb of a thermometer under his tongue and made a note of its revelation, and, with equal care and accuracy, secured the temperature of both axillæ; had placed a drop of his blood under a microscope of three hundred dollars' power, and written down what it said, besides, with gaslight, bull's-eye and laryngoscope illuminating his 'interior basin' down to his umbilicus; while all the time our steam atomizer was 'going it' at a white heat, its alcohol under a consuming fire, and the inevitable and everlasting carbolic acid going to waste, hissing, sighing and singing, and calling to mind the oft-repeated order of poor Barnaby Rudge's raven of 'Jenny put the kettle on, we'll all drink tea,' and all as if the unconscious machine was rejoicing in anticipation of a victim.

"'Charge?' we echoed, interrogatively. 'No, sir, oh, no!' And we said it in a voice softened and modulated to the very sweetness of melody. (We had acquired the trick at an old-field la, me, fa, sol singing school when a boy.) 'Charge?' we repeated, with an intonation as dulcet as the musical fall of a dew drop from the willow into a silver basin, in the atmosphere of a Hannah Morean moon, whose light could be sliced by a golden knife. 'No, sir. We formerly did so; but the expense of book-keeping, and the added per cent. upon those who paid to secure us against losses from those who didn't, made the charging system (excuse us for a moment till we extinguish this lamp)—made the charging system a punishment to the honorable and a blessing to rogues, thus reversing a law of Heaven. No good man could be guilty of so revolting a sin after it was pointed out to him, and of course we quit charging. For our expenditure of skill upon your case this morning you only have to pay me ten dollars, which, under the abrogated and consequently obsolete rule of charging, would have been twenty. So you see, my dear sir, that you save ten dollars by this new system of charging nothing, and taken pay as we go. As he handed us the X, he said he had no doubt that the new rule was the best for all parties. 'Except the rogues,' said we. 'In course,' he assented, 'except the rogues.'"—*Jour. of Chemistry.*

RICH BEEF TEA.—The addition of a small tablespoonful of cream to a teacupful of beef tea renders it richer and more nourishing.

Editorial.

CLOSE OF THE VOLUME.

This number closes the twenty-third volume of the DENTAL REGISTER. We have now but little disposition to retrospect further than to say that we think its pages will show a faithful record, to a considerable extent at least, of the progress of the Dental Profession for the past year. Observation will demonstrate the fact that definite onward movement is every year made by our profession. The faithful journalist should endeavor, with truth and good faith, to record the successive steps of this progress. But our country is so extended, and the members of the profession so active, and the spirit of investigation, invention and improvement so rife, that it is not possible that one observer however industrious, should be cognizant of all that occurs; but the great leading matters should not be overlooked.

We acknowledge with thankfulness the great encouragement and appreciation we have received in our editorial work during the past year, yet there have been some things that caused sadness and pain, prominent among them are our short comings. These make us cautious in promising great things for the future. We are fully warranted in the hope that we shall have a fuller and stronger co-operation of our professional brethren during the coming year than we have had in the past; we have no complaint for the past, but bright hopes for the future. T.

OBITUARY.

James Gamble, D. D. S., died of consumption on the 17th of November, 1869, at the residence of Mr. Thomas Milligan, in Fayette county, Ind. He was born in Preble county, Ohio, in 1836; soon afterwards his parents removed to Monroe county, Ind., which latter place he continued to make his home.

Dr. Gamble received his diploma from the Ohio College of Dental Surgery in the Spring of 1869, and, although doubly afflicted, he has during his brief Professional life, proven himself worthy of the honors conferred upon him by that institution. C.





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